



Universiteit
Leiden
The Netherlands

Towards an interspecies health policy : great apes and the right to health

Nieuwland, J.

Citation

Nieuwland, J. (2020, May 13). *Towards an interspecies health policy : great apes and the right to health*. Retrieved from <https://hdl.handle.net/1887/87894>

Version: Publisher's Version

License: [Licence agreement concerning inclusion of doctoral thesis in the Institutional Repository of the University of Leiden](#)

Downloaded from: <https://hdl.handle.net/1887/87894>

Note: To cite this publication please use the final published version (if applicable).

Cover Page



Universiteit Leiden

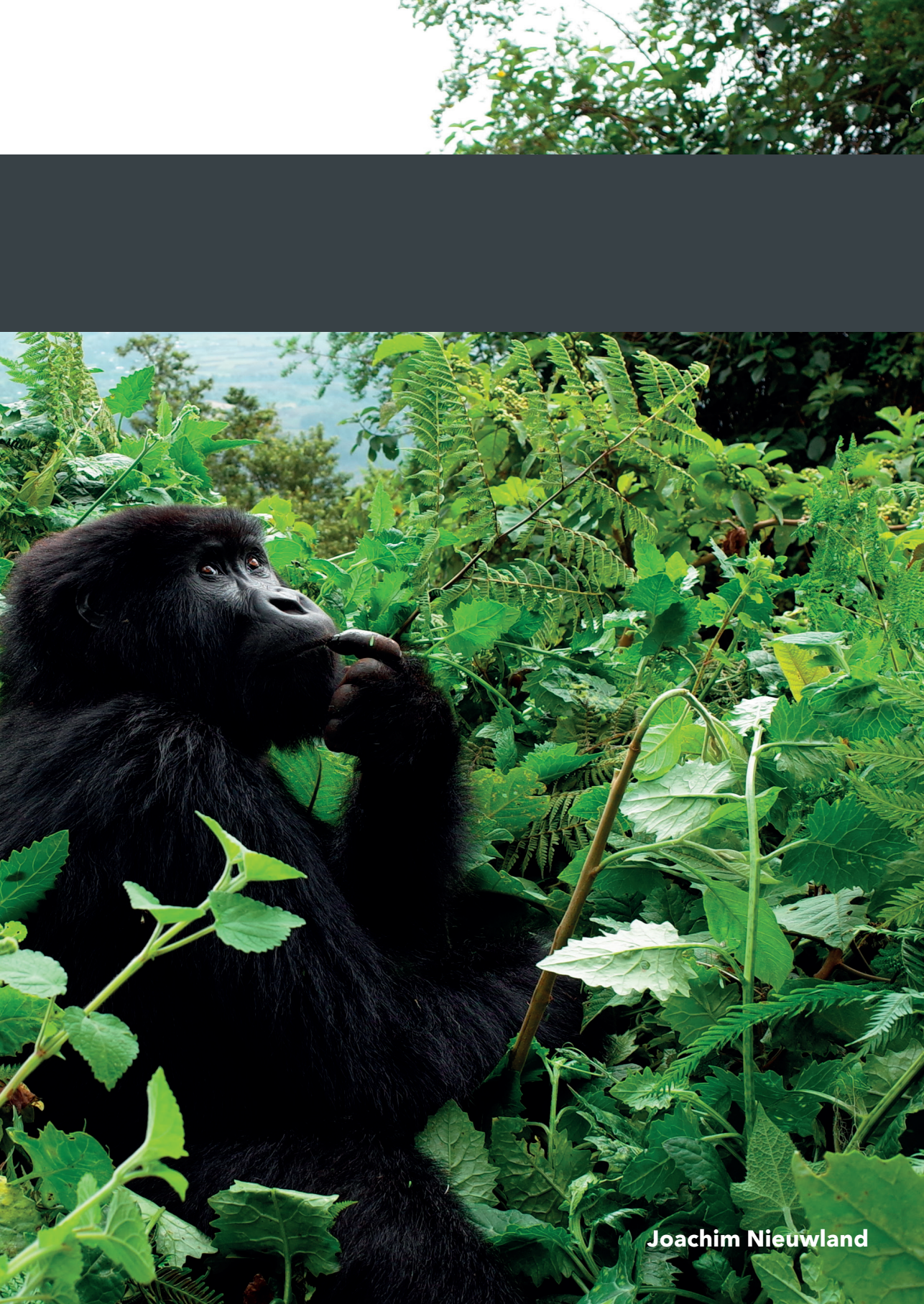


The handle <http://hdl.handle.net/1887/87894> holds various files of this Leiden University dissertation.

Author: Nieuwland, J.

Title: Towards an interspecies health policy : great apes and the right to health

Issue Date: 2020-05-13



Joachim Nieuwland

Towards an Interspecies Health Policy Great Apes and the Right to Health

Joachim Nieuwland



ISBN:	9789464021264
Design cover:	Evert Semeijn
Photograph cover:	Joachim Nieuwland
Print:	Gildeprint

Copyright © Joachim Nieuwland, 2020.

All rights reserved. No part of this publication may be reproduced, in any form or by any means, without prior written permission from the author.

The research for this thesis was conducted at the Institute for Philosophy, Leiden University, the Netherlands.

This work was funded by the Arcus Foundation, a not-for-profit organization; New York (USA) / Cambridge (UK).

Towards an Interspecies Health Policy
Great Apes and the Right to Health

Proefschrift

ter verkrijging van
de graad van Doctor aan de Universiteit Leiden
op gezag van Rector Magnificus Prof.mr. C.J.J.M. Stolker
volgens besluit van het College voor Promoties
te verdedigen op woensdag 13 mei 2020
klokke 11:15

door
Johannes Nieuwland
geboren te Oldebroek,
in 1983

Promotiecommissie

Promotor:	Prof. Dr. R.H.A. Corbey	Leiden University
Copromotores:	Dr. B.J.E. Verbeek	Leiden University
	Dr. F.L.B. Meijboom	Utrecht University
Voorzitter:	Prof. Dr. J.C.A. Kolen	Leiden University
Secretaris:	Prof. Dr. M.J. Versluys	Leiden University
Overige leden:	Dr. B. Bovenkerk	Wageningen University
	Dr. A. Cochrane	University of Sheffield
	Prof. Dr. M.F. Verweij	Wageningen University

Table of Contents

Introduction	9
1. Interspecies health: linking humans, animals, and the environment	17
1.1 <i>One Health: linking humans, animals and the environment</i>	18
1.2 <i>Interspecific threats</i>	20
1.3 <i>Interspecific benefits</i>	23
1.4 <i>The epistemic challenge</i>	25
1.5 <i>The ecological challenge</i>	29
1.6 <i>The normative challenge</i>	32
1.7 <i>A universal rights perspective</i>	35
1.8 <i>The 2014 Ebola virus disease outbreak in West Africa</i>	42
1.9 <i>Concluding remarks</i>	49
2. Considering animals: moral status and interests	53
2.1 <i>The moral status of animals</i>	53
2.2 <i>Perspectives on well-being</i>	57
2.3 <i>Why we need to take agency seriously</i>	61
2.4 <i>What is in the interests of animals?</i>	70
2.5 <i>Concluding remarks</i>	75
3. How interests generate moral rights	77
3.1 <i>An interest-based theory of moral rights</i>	77
3.2 <i>From interests to rights</i>	80
3.3 <i>The moral right not to be made to suffer</i>	85
3.4 <i>The moral right to life</i>	86
3.5 <i>The moral right to freedom of opportunity</i>	88
3.6 <i>Concluding remarks</i>	99
4. Health interests: a matter of rights?	101
4.1 <i>Why health matters: pathology and opportunity</i>	101
4.2 <i>Why not just duties?</i>	104
4.3 <i>Considering a negative right to health</i>	105
4.4 <i>The efforts of animals and their entitlements</i>	107
4.5 <i>Is citizenship required?</i>	109
4.6 <i>Going cosmopolitan</i>	111
4.7 <i>Concluding remarks</i>	114
5. The right to health: its social, interspecies, and ecological determinants	117
5.1 <i>The need for a decision rule</i>	117
5.2 <i>A modest account: protection against standard threats to health</i>	119

5.3 <i>The right to be unhealthy?</i>	122
5.4 <i>Anything beyond the medical?</i>	126
5.5 <i>Ecological and interspecies determinants</i>	128
5.6 <i>Concluding remarks</i>	133
 6. The right to health in the wild	 137
6.1 <i>Do we owe anything to animals in the wild?</i>	137
6.2 <i>The right to be left alone: individual flourishing</i>	138
6.3 <i>The right to be left alone: collective flourishing</i>	139
6.4 <i>Considering the right to health in the wild</i>	144
6.5 <i>Freedom and health: the Assateague horses</i>	149
6.6 <i>Concluding remarks</i>	156
 7. Great ape health policy	 159
7.1 <i>Great apes in captivity</i>	159
7.2 <i>The health of great apes: more than charity</i>	162
7.3 <i>Vaccinating great apes</i>	163
7.4 <i>Should great apes be vaccinated?</i>	165
7.5 <i>Should we enroll great apes in medical research?</i>	171
7.6 <i>The ethics of habituating great apes</i>	184
7.7 <i>Considering isolated peoples</i>	188
7.8 <i>What about already habituated great apes?</i>	190
7.9 <i>Concluding remarks</i>	194
 8. General Conclusion	 197
 Bibliography	 205
Summary	221
Samenvatting	223
Acknowledgements	227
Curriculum vitae	231

Introduction

Recent perspectives on public health emphasize the relevance of ecological processes. Amongst those perspectives we find the idea of One Health (OH): an initiative to promote collaboration across disciplinary boundaries which is based on the recognition of the numerous interconnections in terms of health between humans, non-human animals (henceforth referred to as animals) and the environment, in order to improve the health of all involved.

By bringing together the health of humans and animals against the background of a shared environment, incoming philosophical questions arise. What does health mean in such a multispecies perspective? How does this affect the scope of public health? Moreover, central to this thesis: how should we include the interests of non-humans?

Before paying attention to such questions, we need to take a step back and reflect on the nature of OH itself as an ecological perspective on health policy. Doing so is especially relevant when considering its various interpretations. Certain scholars primarily understand it to be a framework with which to address the threat of zoonoses (infectious diseases transmitted by pathogens from animals to humans either directly or through food, water and the environment (Taylor et al. 2001)) and antimicrobial resistance, while other scholars highlight the potentially vast scope of the OH concept, making it “challenging to think of examples or issues that might not be classified as One Health challenges” (Lapinski et al. 2015: 53). How do we navigate between holistic and narrower interpretations, between the trivial affirmation that everything is connected and a strong but narrow emphasis on zoonotic disease and antimicrobial resistance? This question will be central to chapter 1.

Values shape the scope of ecological perspectives on health. One’s values and moral outlook structure the way in which the OH concept is understood and operationalized. Thus, in order to address the question of scope, we apparently need to engage with the values at play. Although moral values are paramount in shaping OH policy, it is possible to discern four largely descriptive features which could serve as a common ground for a wide range of perspectives. Once we have established the validity of these features as an objective basis, values can subsequently shape health policy informed by this knowledge. It requires one to

step back and explicate the underlying values which have structured one's understanding of OH.

What do these features involve? Firstly, OH highlights interspecific threats to health, including but not limited to zoonotic diseases only. Secondly, interspecies interaction may result in health benefits. Thirdly, understanding health from an interspecific point of view calls for the awareness of similarities and differences between species with respect to utilizing knowledge across species boundaries. Fourthly, health is inescapably placed in an ecological perspective. Whereas these features are not completely value neutral, they provide ample opportunity for establishing a broad agreement between various perspectives and a meaningful specification of the OH concept.

With this specified description of OH in place, I argue that compelling reasons exist to consider a human rights perspective. A very simple reason for doing so: human rights are not a prominent part of discussions on OH. This absence is alarming considering the fact that human rights reflect the basic entitlement of justice; indeed, a strong reason for taking these rights seriously. Another pragmatic reason entails that different perspectives endorse human rights for various reasons, creating a kind of overlapping consensus about their value (Nussbaum 2006). In that sense, indeed somewhat similar to the way in which the four features have the potential to garner broad support, human rights provide a relatively uncontroversial normative reference point for ecological and interspecies health policy, hereby causing the premises of the present inquiry to appeal to the basic moral intuitions of many. Moreover, human rights, in particular the human right to health, help to focus questions pertaining to distributive justice observed across political- and species boundaries. Although debates on global health justice involve far more than the human right to health, it singles out a basic entitlement held by individuals of high relevance to forward any implementation as to health policy, allowing it to serve as an appropriate starting point for introducing issues regarding global health justice to the OH initiative.

Turning it around, we can ask in which way the OH concept informs questions of global health justice. Ecological and interspecies determinants of health irrevocably traverse the boundaries of nation states, thus highlighting the interdependence of humans around the world. Pathogens such as highly pathogenic avian influenza virus and Ebola virus can travel the Earth rapidly due to the infrastructure of a globalized economy. The effects of ecosystem

collapse are not only felt far and wide but also accompanied by an unsettling disregard for the political ideas of nation states and their boundaries. Therefore, an understanding of public health which omits ecological and interspecies relations proves radically incomplete in both descriptive and moral terms. The health of individual humans is inescapably dependent on ecosystem services as well as vulnerable to interspecies threats such as emerging infectious diseases.

The above assessments raise questions about the content of human rights, in particular to the right to health. Do we have a right to access to healthcare? And, if so, how does this right influence the equitable distribution of resources internationally? What can be done about the significant differences in vulnerability to emerging infectious disease across the globe or the way numerous pharmaceutical developments are skewed towards the interests of people living in developed countries? In addition, does a right to health extend beyond the medical realm? It is argued that humans should not only have access to healthcare but also see to it that it is safeguarded by policies aimed at the social determinants of health (Daniels 2007; Venkatapuram 2013). Perhaps we should proceed even further by including the ecological and interspecies determinants of health as disclosed by means of a OH perspective, too.

Firstly, however, we need to take a closer look at how human rights as such are structured. To what extent do such rights exist, and on which grounds are they based? These issues require an additional explanation and justification of the concept of human rights as moral rights. What underpins such universal claims of justice? Certain scholars advocate a will-based theory of moral rights whereas others introduce an interest-based theory. Rather than expressing a mere theoretical interest, preferring one theory above the other has significant practical implications. Certain rights resulting from an interest-based theory cannot be warranted by means of a will-based theory. This conclusion proves to be important in terms of the implications as well as of the justification of opting for an interest-based theory of rights in order to understand human rights (see chapter 3).

If certain significant interests generate moral rights, pressure is placed on other criteria e.g., species-membership. What restricts the scope of human rights pertaining to humans only if interests generate rights? Scrutiny of the concept of human rights uncovers the need to explicate the nature of moral status as well as interests. Do animals indeed have moral status, and if they do, what is in their interests? Many animal ethicists regard sentience as an

unequivocal criterion for upholding moral status (as a sufficient, and for some even as a necessary condition). Implying subjectivity, sentience concerns the ability to feel (at the most basic level to experience pain and pleasure). Even if this viewpoint is correct, we are not necessarily presented with an answer to what is in the interest of sentient animals. Sentience does already indicate certain elements which oppose the interest of individuals, for example, the interest in not being made to suffer. Nevertheless, this argument does not deliver a full account of all relevant interests. To do so, we need to discuss well-being and its various interpretations.

A subjectivist account, rendering individuals the authorities of well-being and their interests, competes with its objectivist counterpart, which aims to provide a conception of the good life for some part irrespective of individual experience. Both perspectives select an element of value. The subjectivist will argue: who are we to evaluate the well-being of someone else according to objective standards, which they might even reject? The objectivist in turn objects: on occasion, perhaps often, individuals are obviously misguided in their conceptions of the good life, rendering them ill-suited to be the authority regarding their own well-being. Perhaps we should consider a middle ground. Suppose well-being comprises being justifiably satisfied (Sumner 1996; Haynes 2008). Individuals are now the authority of well-being (a subjectivist account) while simultaneously addressing objectivist concerns by way of requiring that the individual is able to reflect on his/her own life in order to ensure that he/she is justifiably satisfied. Even if we rest assured that autonomous individuals are fully capable of judging their happiness and that this stance provides us with a reasonable view on well-being, to what extent are animals able to do so? To address this question, chapter 2 concludes with a discussion of the relevance of agency in relation to well-being.

Chapter 3 will bring all this to bear on the question of moral rights, hereby fleshing out an account of animal rights in general and the rights of great apes in particular. The latter provide an interesting case given their cognitive capacities. Are they autonomous in the same or similar ways as adult human individuals are? It has been argued that great apes are also entitled to freedom, which would provide a ground for liberating individual great apes from human dominion. The attribution of autonomy, which underlies a specific claim to freedom, has however been challenged, too. When faltering between these two opinions, some favor a precautionary approach. In this view, while the jury is still out, we should recognize the claim to freedom of individual great apes as a precautionary measure (Cochrane 2009). The three

perspectives all start off from autonomy. Does it have to be that way? What if we apply the understanding of well-being in terms of being justifiably satisfied? Does this not lead to latitude, perhaps even rendering autonomy more or less irrelevant? This outcome is all the more relevant to those clinging to a precautionary approach, not the most solid ground.

In chapter 4, the right to health takes center stage. Which kind of interests give rise to a right to health? Are there any reasons to acknowledge such a right for humans only? Health is generally valued for the absence of pathology and the presence of opportunity, interests that great apes largely share with humans. Are there nonetheless perhaps other reasons that restrict the right to health to humans only? Are great apes entitled to more than negative rights only i.e., not to be killed, tortured or kept captive, the three rights the Great Ape Project (1993) has advocated for ever since its conception? What underpins any positive entitlements? Should great apes contribute to the common good in order to be eligible for such entitlements? To what extent should an individual be a member of a particular political community, for example, a nation-state, in order to have a right to health?

Chapter 5 addresses the content of the right to health. What do the interests in the avoidance of pathology and in the access to opportunity entail? Which level of health should be safeguarded? What if we consider the right to health to involve protection against standard threats to health (Wolff 2012a)? An expansion hereof may be required, but we are provided with a starting point for exploring the contents of a right to health. Such standard threats to health are relatively serious and a certain solution should be attainable under reasonable conditions.

Chapter 5 throws up key questions concerning the idea of a right to health, including, for instance, its relation to liberty rights. To what extent should we promote health if this implies restricting freedom? For example, do we need to ban the production and selling of tobacco in reference to the health interests of individuals addicted to smoking. Or, should individuals have the right to determine for themselves whether to accept any negative impact on their health? How do such questions translate to great apes? To what extent do they possess “health agency”: the ability to understand how one should act in order to safeguard and improve one’s own health? (Ruger 2010) These issues again take us back to the issue of autonomy. Assuming that great apes are not autonomous in the relevant sense, how do their interests in freedom relate to their interests in health?

Another matter relates to the specific duties corresponding to the right to health. Certain scholars justify understanding the right to health in terms of the access to health care and public health measures, avoiding broader interpretations (Tasioulas & Vayena 2015). Otherwise, they are concerned whether the distinctiveness of the right to health will no longer be present, as everything even if only remotely relevant to health will be subsumed under this one right. Rather than in terms of interests, the right to health is defined in terms of its distinctive duties. And, what about the Herculean task of monitoring and safeguarding health by means of addressing every relevant factor that can possibly affect individual health? Such an endeavor, they worry, may not only prove too much but also impede any progress that could be made by means of focusing on a narrow range of factors instead.

Perhaps something important will disappear if we isolate the right to health from its ecological and interspecies determinants. Not every health interest is directly intertwined with these broader aspects. However, ultimately the health of each and every individual is linked to the socio-ecological background, to the origin of vital ecosystem services as well as to possible interspecies threats. This subject-matter requires further research which cannot be completed within this thesis. Nevertheless, a provisional sketch of the contours of everything this inquiry would require is presented here.

Chapter 6 takes a closer look at the moral relevance of one's socio-ecological environment: do beings with interests who do not reside in modern societies have rights based on their interests? Even if there are no principled objections to interfering with natural settings, the fallibility and feasibility of human intervention impose serious challenges. For the great apes who interact at a certain level with humans, these concerns appear to be less serious. Nonetheless, one could argue that great apes in the wild have the right to be left alone. Whenever fallibility and feasibility restrict human intervention, freedom could prohibit such meddling altogether. How does the tension between health and freedom (for a discussion hereof, see chapter 5) translate to a context in which wild animals live? This issue will be first dealt with by referring to the case of the Assateague horses (see chapter 6) and next explored more specifically with regard to great apes (see chapter 7).

Chapter 7 concerns the various arguments pertaining to the question: what would an interspecies health policy look like? Challenging the human-ape boundary as an exploratory case for achieving interspecies health justice will be served in the spirit of the Great Ape

Project. The treatment of great apes in captivity must be considered first. What does a right to health entail for those individual great apes?

With regard to great apes living outside human-dominated societies, the issue of vaccination provides us with a relevant case, especially given the recent attention paid to and the debate on this subject. Vaccinating great apes in the wild raises the following questions. If deemed relatively safe and feasible, should we vaccinate great apes in order to protect them against diseases with a potentially devastating impact? If so, for what reason primarily? When considering the strategy of vaccinations, should we strive for a preventive or a reactive attitude? Do the benefits of vaccinating great apes in the wild justify enrolling captive apes in order to carry out medical research? And, should we make an exception to the ban on utilizing great apes for invasive research in the face of devastating threats to human health? Taking a closer look at the human-ape interface: are current practices including habituation, tourism and research justified with respect to their interests in health and freedom? The way these questions cut across species and context exemplify the need for a genuine interspecies health policy.

1. Interspecies health: linking humans, animals, and the environment

The One Health (OH) concept emerged at the start of the 21st century. This perspective on health policy emphasizes the links between humans, animals, and the environment. Moreover, it calls for a multidisciplinary approach of complex health problems.

This chapter will explain why we need to consider the OH concept as a normative proposal. In addition to its objective to promote collaboration between various health professions and to gain a better overview of the ecological and interspecies relations relevant to health, the underlying motivation to not only protect but also to promote health involves values which determine whose health matters, hereby affecting how OH as a concept is understood and operationalized.

If OH does indeed involve values, this raises issues concerning its meaning and justification. Firstly, what does OH involve? To what extent is it possible to agree on its nature in the face of a pluralism of values? I argue that we must find common ground at the empirical level. Although values are paramount in shaping OH policy, it is possible to discern four (largely descriptive) features. This observation, in turn, contributes to clarifying one's own value assumptions pertaining to the operationalization of OH, as this procedure requires an explicit selection of relevant connections between humans, animals, and the environment.

Secondly, how do we justify a OH policy? This issue, I argue, also calls for a search for common ground, albeit explicitly normative in this case. Cutting across national as well as species boundaries, thereby affecting distribution of health resources in the process, discussions on OH surprisingly lack any systematic considerations of justice. In this regard human rights, especially the right to health, provide us with an interesting lens. For, they represent basic entitlements of justice and thus a potentially common ground positioned between otherwise disparate normative viewpoints. Conversely, an interspecies and ecological perspective on health policy could affect our understanding of such basic entitlements. In addition to this interplay, a rights perspective opens up an inquiry into a truly interspecies health policy by means of broadening the scope in order to reach beyond humans.

Considering our close evolutionary history, great apes perhaps provide the strongest challenge to human exceptionalism. The Great Ape Project (1993) asserts that great apes are relevantly

similar to humans rendering them eligible for entitlements of basic justice. If humankind has a right to health, do great apes share this entitlement?¹

1.1 One Health: linking humans, animals, and the environment

The OH concept can be traced back to the publications presented by Calvin W. Schwabe (1927-2006), the renowned veterinary epidemiologist. During the second half of the 20th century, he advocated not only a more integrative perspective on health but also collaborative efforts between human and veterinary health (Schwabe 1964). This view has been summarized as follows, “both sciences share, as a general medicine, a common body of knowledge in anatomy, physiology, pathology, and the origin of disease in all species” (Zinsstag & Schelling 2011: 149). The tenets of this comparative outlook on health can be found in earlier publications e.g., by the physician-*cum*-anthropologist Rudolf Virchow (1821-1902), a key figure in the development of modern pathology (Schultz 2008). However, the cooperative effort between human and veterinary medicine can perhaps be better described as One Medicine.² The OH concept explicitly places human and animal health against the background of their shared environment. In that sense, it delivers an ecological perspective on public health (Lang & Rayner 2012; Coutts, Forkink & Weiner 2014). Therefore, while One Medicine would point towards the ability of certain pathogens to jump species, their zoonotic trait, OH will take an upstream approach, fleshing out those ecological factors which lead up to transmission of pathogens causing disease. In that sense, OH understands humans as well as animals to be an inextricable part of ecosystems. This recognition of the interplay between individual health and the environment has its historical precursors, too, going back for example to the writings of Hippocrates (Barrett & Osofsky 2013).

Nonetheless, it was only at the start of the 21st century, when facing an upsurge of emerging infectious diseases, that the OH concept acquired a strong foothold. In 2004, the Wildlife Conservation Society made an effort to convene relevant partners in order to discuss this threatening increase stating that “recent outbreaks of West Nile virus, Ebola hemorrhagic

¹ Presentation and discussion at several EurSafe conferences has greatly benefitted this chapter (Nieuwland & Meijboom 2015; Nieuwland 2016; Meijboom & Nieuwland 2018). Moreover, this chapter has informed a policy advisory report written (in Dutch) by Franck Meijboom and me (2017) at the request by the Dutch Association of Bioethics (NVBE).

² The celebrated Canadian physician Sir William Osler (1849-1919) allegedly coined the term “One Medicine” (Zinsstag & Schelling 2011: 149).

fever, SARS, monkeypox, mad cow disease, and avian influenza remind us that human and animal health are intimately connected. A broader understanding of health and disease demands a unity of approach achievable only through a consilience of human, domestic animal and wildlife health — One Health”.³

In order to inform health policy, the “One World, One Health” approach was officially established in 2004, together with the so-called Manhattan principles. These principles mainly focus on the integration of wildlife health with livestock population health and with public health. In 2008 an endorsement of the OH concept was forwarded by the American Veterinary Medical Association (AMVA), describing it as the need for a “collaborative effort of multiple disciplines - working locally, nationally, and globally - to attain optimal health for people, animals and the environment” (King et al. 2008). In due course, the United Nations endorsed the OH concept through the “The FAO-OIE-WHO Collaboration: Tripartite Concept Note” (2010), involving in addition to the UN organizations World Health Organization (WHO) and the Food and Agricultural Organization (FAO), the World Animal Health Organisation, formerly the Office International des Epizooties (OIE).

The OH concept spans a wide range of factors, whereby a great deal of how it is understood and operationalized appears to boil down to zoonotic diseases i.e., pathogens with the ability to jump from animal species to humans causing disease as well as other threats associated with animals (Lapinski et al. 2015). Considering the fact that an increasing threat of emerging infectious diseases has played a remarkable role in the development and endorsement of OH, this specific focus does not come as a surprise. The trigger for discussing OH still echoes in current understandings of this concept.

The onset of the OH concept includes a lesson to be learned. Faced with an impending, serious threat (e.g., emerging infectious diseases) one may be forced to abandon time-honored opinions and procedures executed in a business as usual manner. OH furthered cooperation in due course and managed to find its way to the levels of international health policy. Paradoxically, if OH had caught the imagination of health professionals decades earlier, several issues that currently define OH in practice would perhaps not have existed to the

³ <http://www.oneworldonehealth.org> [accessed 5 June 2019].

degree they do now.⁴ Rather than managing the risk of infectious disease emerging against the backdrop of an increased human-wildlife interaction and of the loss of biodiversity and forest fragmentation/destruction, an ecological and interspecies perspective on human health could have ushered us towards implementing systematic changes to our interactions with the natural world. Therefore, while OH provided an urgently required broadening of health policies in the face of emerging infectious diseases, it also focused our attention on these threats, hereby potentially obfuscating other relevant aspects (Stephen 2014).

Having acknowledged OH at several levels (e.g., determining (inter)national health policies; shaping the curricula of medical sciences and professions (Gibbs 2014a), the question: “What does OH exactly involve?” becomes relevant. In order to grasp the nature of OH, as I will discuss below, we need to acquire a clear understanding of the associated values. Prior hereto, it is helpful to distinguish between various OH features that are rather value neutral. The OH concept involves certain empirical claims. No matter your personal normative worldview, everyone could agree to OH entailing at least four factors which, after discussing them, I will bring to bear on the values at play.

1.2 Interspecific threats

Zoonotic diseases played an important role in the development of OH, signifying the obvious relevance of human-animal relations to public health. Human health can be particularly vulnerable to infectious diseases caused by pathogens such as highly pathogenic avian influenza virus, Ebola virus, and SARS-CoV (Daszak et al. 2000). It is no coincidence that these examples are zoonotic with a wildlife origin. The majority of emerging infectious diseases are indeed zoonotic (Taylor et al. 2001). Almost 75 per cent of the zoonotic emerging infectious disease events have a wildlife origin (Jones et al. 2008). The development of antimicrobial resistance in animals (e.g., pigs) is yet another case of a substantial threat to human as well as to animal health (Landers et al. 2012). The transmission of these resistant bacteria to humans could lead to infections no longer susceptible to any antimicrobial treatments.

⁴ The links between biological domains are central to the “bioethics” concept as coined in 1970 by the American biochemist Van Rensselaer Potter II (1911-2001). This concept was overshadowed, much to his disappointment, by means of a rival account which emphasized the relation between the individual patient and the health professional, embedded in a clinical setting (Have 2012). In this sense, One Health follows up on Potter’s proposal by not only reconnecting the dots but also by acknowledging the interdependence existing across biological domains.

The impact of an infectious disease outbreak can be extremely far-reaching, not only involving above all the tragedy of human victims but also for instance economic loss, political instability, and the culling of large numbers of animals (The World Bank 2010). The effects of, for example, the Ebola outbreak of 2014 in West Africa are pervasive and disruptive throughout the struck regions, negatively affecting the lives of those residing here until this very day. In 2017, UNICEF wrote: “As hope grows in West Africa due to decreasing Ebola infections, there are many obstacles to overcome; devastated health care systems, loss of education and distressed social structures face all those who have lived through the Ebola outbreak”.⁵

The undeniable significance of emerging infectious diseases in relation to human health has spurred research interest into wildlife. One of the main research questions for the scientific community in the face of the Ebola outbreak in West Africa was: Where exactly did this virus originate from? The current body of knowledge points towards fruit bats belonging to the *Pteropodidae* family as the likely natural source of Ebola Zaire, the strain responsible for the outbreak during 2014.⁶ As yet, however, numerous questions concerning the Ebola outbreak, and its disease ecology, remain unanswered.

Infectious disease outbreaks underline the relevance of the human-wildlife interface, thereby sparking research into wildlife as well as bringing other options to the table. On occasion, impending health threats stemming from wildlife are addressed by means of culling strategies (Degeling et al. 2016). Vaccination presents us with an alternative means of managing or controlling wildlife health in the light of the threats they may impose on public health. The threat of rabies which foxes imposed across Europe, for example, has been successfully eliminated by way of an oral vaccination strategy (Cliquet & Aubert 2004). In addition to interfering with the animals themselves either by culling or vaccination, wildlife could also play a part in early warning systems just by living their lives. Within such a system, instead of merely viewing them as potential threats to public health, animals are regarded as sentinels serving humankind (Rabinowitz et al. 2008).

Whether animals are indeed potential sources of infectious pathogens or rather reflect an impending threat to human health, these are all ways of seeing animals in terms of human

⁵ https://www.unicef.org/emergencies/ebola/75941_76129.html [accessed 30 October 2017].

⁶ <http://www.who.int/mediacentre/factsheets/fs103/en/> [accessed 30 October 2017].

health; animals either threaten human health or function as a warning of threats to human health (Hanrahan 2014). Whereas OH interconnects the health of humans and animals against the backdrop of a shared environment, nowhere in its DNA does it necessarily involve a human-centered manner of viewing animals. We could also look into interspecies relations from the perspective of wild animals.

The above-mentioned is especially relevant if we take a closer look at great apes, non-human hominids, including gorillas (*Gorilla gorilla* and *Gorilla beringei*), orangutans (*Pongo pygmaeus*, *Pongo abelii* and *Pongo tapanuliensis*), and chimpanzees and bonobos (*Pan troglodytes* and *Pan paniscus*) (Nater et al. 2017).⁷ From an evolutionary perspective, the phylogenetic divergence between humans and great apes is a relatively recent phenomenon, especially if pertaining to chimpanzees, bonobos, and humans (Kuhlwilm et al. 2016). This in part explains the reciprocal susceptibility of hominid species regarding disease transmission (Harper & Zuckerman 2013). The Zaire ebolavirus, for example, is a zoonotic pathogen, that originates from a wildlife reservoir which imposes a threat to both great apes and humans.⁸ Simian immunodeficiency viruses (SIVs) in chimpanzees only become a threat to humans if they evolve into the human immunodeficiency virus referred to as HIV-1 (Harper et al. 2013). Reverse zoonotic diseases, or “anthropozoonoses,” take a different route, as they are threats to the health of great apes originating from humans. The measles virus and respiratory viruses e.g., the Human metapneumovirus (HMPV) can jump from humans to great apes directly, with a potentially devastating impact (Palacios et al. 2011). The human-great ape interface thus involves various serious health threats either way.

Pathogens prominently interconnect the health of humans and animals. As indicated above, this observation need not be focused on threats to human health or interests. The OH concept merely indicates the potential threats to health resulting from interspecies interaction. Furthermore, pathogens need not define OH. The health of humans and animals is related in other ways as well. The three additional features I will discuss below all coherently take OH beyond its focus on interspecific health threats.

⁷ All non-human hominid species are either endangered or critically endangered. <https://www.iucnredlist.org/search/grid?query=Great%20Apes&searchType=species> [accessed 5 February 2020].

⁸ The four other species of the genus *Ebolavirus* are the Bundibugyo ebolavirus, the Sudan ebolavirus, the Reston ebolavirus and the Taï Forest (Ivory Coast) ebolavirus. <http://www.who.int/mediacentre/factsheets/fs103/en/> [accessed 7 September 2018].

1.3 Interspecific benefits

An exaggerated focus on disease works to discern other relevant features. Take for example the increased interest in wildlife in terms of the threats to health they might harbor, where apparently “much wildlife health work focuses on the detection and response to infectious or parasitic diseases; this perspective has been reinforced by the focus of the One Health initiative on wildlife as sources of emerging infections” (Stephen 2014: 427). The OH concept may contribute to a framing of wildlife as possible threats, hereby not only instilling fear of wild animals but also shaping wildlife research according to a disease-centered understanding of health. Viewing wildlife in terms of disease threats may affect the way in which wildlife is managed: “It is right to have standards to prevent the spread and impacts of pathogens, but this should not be confused with the objective of promoting wildlife health” (Stephen 2014: 429).

Thus, a focus on disease could obfuscate the way in which we can promote health. This insight provides us with a second OH feature. Acquiring a comprehensive overview of interspecies relations points out the likely threats as well as the potential benefits to health whereby a difference in approach is reflected: protecting health pertains to threats, whereas the promotion of health looks for conditions that support health. If OH strives to achieve optimal health for all, as suggested by means of the above discussed definition presented by the American Veterinary Medical Association, the promotion of health would complement its protection.

It has been suggested to expand upon the potential of OH beyond interspecific threats to health: “One Health is not limited to the prevention of zoonoses; it also encompasses the human health benefits from animals. Benefits to humans include animals used in the production of food for human consumption, animals as models for research of human diseases, and pet-assisted therapy” (Hodgson & Darling 2011: 189).

To complement the negative impact of animals on human health, such as when resulting from zoonosis, the term “zooeyia” has been proposed in order to signify the human health benefits that are the outcome of either the interaction with or the use of animals. However, similar to the bi-directional nature of threats to health between species, benefits may also accrue regarding animals. OH involves, as is argued, a “two-way affair” (Sandoe et al. 2014). Taking this line of reasoning further, I propose we should also consider the term “anthropoeiyia”

when referring to the health benefits to animals that follow from their interaction with humans.⁹

What are the health benefits of interspecies interaction? The examples which Hodgson and Darling mention explicitly involve the varied utilization of animals to human advantage. Human-animal interactions are understood respectively in terms of consumption, knowledge-generation, and therapeutic intervention. Hodgson and Darling also deal with how animals benefit the health of their human companions, which may even include positive effects on cardio-vascular diseases and mental health.

Establishing the benefits of interspecies interaction is not a straightforward matter. The correlation between better cardio-vascular functioning and having a dog as a companion may not reflect a causal relationship. Based on the available literature, the American Heart Association carefully states: “Pet ownership, particularly dog ownership, is probably associated with decreased CVD [cardio-vascular disease] risk” (Levine et al. 2013: 2356). If companion animals do indeed provide health benefits instead of perceived contribution to well-being has been questioned (Herzog 2011).

Whether or not, and to what extent, dog ownership decreases the risk of developing cardio-vascular disease is not the issue at stake here. The point is: could interspecies interaction perhaps be a way in which human health could be promoted? Animals are inextricably part of human societies, rendering interspecies interaction a possible social determinant of health. According to the World Health Organization (WHO), the social determinants of health are:

the conditions in which people are born, grow, live, work and age, including the health system. These circumstances are shaped by the distribution of money, power and resources at global, national and local levels, which are themselves influenced by policy choices. The social determinants of health are mostly responsible for health inequities - the unfair and avoidable differences in health status seen within and between countries.¹⁰

⁹ For a discussion on whether or not benefiting from the health of other non-human animals involves any ethical issues, see 3.1 (below).

¹⁰ http://www.who.int/topics/social_determinants/en/ [accessed 24 October 2017].

Recognition of the social determinants of health opens up new ways of looking at animals. While OH first and foremost emphasized the role of animals with regard to emerging infectious diseases, it also provides a framework to look at the possible health benefits not only of human-animal interaction but also information on the extent to which social determinants of health are shared. This fact prompts research into hypothesized health benefits of interspecies interaction, the outcome of which could inform policy measures aimed at promoting health at the level of social determinants (Rock et al. 2015). So, interaction with animals could thus represent a social determinant of health for humans and vice versa.

Furthermore, rather than representing a social determinant of health for the other, humans and animals might also share certain social determinants of health. For example, the extent to which obesity in humans and animals may have certain determinants in common has been explored (Sandoe et al. 2014). This information could well be of great help to not only acquire a better grip on the relevant factors at play but also to develop effective measures hereby addressing this threat to health which is aimed at both humans and their animal companions.

Another OH feature pertains to the transfer of health knowledge across species boundaries. The example of obesity highlights the shared determinants of health among humans and animals, thereby generating knowledge that could benefit all involved. This event requires an understanding of the differences between species and how they affect knowledge. The first two above-mentioned features emphasize the causal relations between human and animal health placed against the background of a shared environment. Does interspecies interaction involve either threats or benefits to health? However, OH also has an epistemic dimension. To what extent do species boundaries affect a shared perspective on health? This question characterizes the following OH feature: the epistemic challenge of integrating and employing health knowledge across species boundaries. This aspect becomes especially relevant when animals themselves are considered possible sources of knowledge to benefit human health.

1.4 The epistemic challenge

The first two features which concern, respectively, threats and benefits, clearly show how animals are relevant to human health and vice versa. While much of the OH concept revolves around interspecies health threats, we have seen no reason to exclude possible health benefits

from human-animal interaction, whereby a comprehensive overview of threats and benefits to health of interspecies relations is provided.

How does the involvement of animals in research fit into this? Hodgson and Darling (2011) have already pointed out the benefits that might accrue from animal experimentation.

However, in my opinion, the issue of animal experimentation points to another distinct OH feature that deserves attention, namely the epistemic challenge of an integrative perspective on health. Protection and promotion of human health is the primary objective of much animal research, hereby transforming animals into models that hypothetically reflect human physiology and pathology. Within these scientific practices, human health relates to animal health in a comparative rather than causal way. The aim is to generate knowledge by means of animal models in order to benefit human health.

Animal research is less prominently part of the OH discourse when compared to zoonotic diseases, which is indeed surprising. Granted, the links between human health and animal health are comparative rather than causal, a difference that should lead us to exclude the former. Upon consideration, both bring out relevant interconnections between humans and animals albeit in different ways. The extent to which human health policy relies extensively upon animal models resonates very well with the way in which the OH concept strives to flesh out the interconnections between health and disease across species.

Instead of viewing animal research as merely an element of OH, it should be considered a major part of current interspecies health policy. If animal research does indeed contribute to human health, its influence cannot easily be overstated. The involvement of animals is pervasive throughout human medicine, as it is regarded a necessary precursor to clinical trials carried out on humans. Virtually all human medication and medical technology requiring a clinical trial has been tested on animals. A comparative approach to human and animal health is thus deemed vital to human medicine if looking at both the institutional design as well as the flow of resources.

Another reason for OH to be conscious of the comparative approach pertains to its basic premise: the usefulness of animal models to successfully and meaningfully mirror human afflictions. OH is renowned for integrating human and animal health, with a reference to similarity and reciprocal vulnerability. In bringing together various species in an approach to

health it is, however, just as important to comprehend, investigate, and underline interspecies differences:

Yes, animals and humans share traits such as the susceptibility to be infected by viruses and the presence of hearts that are susceptible to diseases. But these are merely surface commonalities or traits manifest on the gross level of examination and hence do not imply the same mechanisms, natural history, or etiology of a disease. Deeper examination reveals that the mechanism by which a virus such as HIV infects the cell differs dramatically among species, as does the resulting illness. (Greek 2012: 562)

We have observed that a shared phylogenetic history between, for example, hominin species is highly relevant in determining zoonotic and anthroponotic threats to health. Humankind has relatively recently, considering the evolutionary history of animals, branched off from other apes. The resultant relative similarity in terms of genotype and phenotype is sufficient for humans and great apes to both not only suffer from Ebola virus disease but also for great apes to be highly susceptible to common human upper respiratory tract infections. While animals, especially great apes, may resemble humans in many ways, complex biological differences could stand in the way of extrapolating knowledge from animals to humans. This fact presents a serious challenge to a comparative approach aimed at the protection and promotion of human health by means of relying on animal models.

Researchers have very often immediately turned to great apes in order to acquire knowledge concerning human health. Nevertheless, reasons to seriously question this unilateral pathway are:

(a) the significant ethical objections to utilizing great apes for both invasive and non-invasive studies. This concern is underlined by the legal prohibition regarding such research imposed in Austria, Germany, the Netherlands, New Zealand, Sweden and the United Kingdom with for example the United States to follow suit (Knight 2011).

(b) as indicated above, serious epistemic questions are related to the predictive value of animal models for human diseases in pre-clinical research. Great apes share a relatively recent common ancestor with humans. However, they differ significantly in their protein expression which explains why systematic reviews of research carried out on chimpanzees queries the

usefulness of such research (Knight 2011). Reliability as well as the predictability of animal models as to human diseases and medical treatments have been questioned in principle because of: (a) an interspecies difference (LaFollette & Shanks 1996; Shanks et al. 2009; Akhtar 2015) and (b) in practice, by means of systematic reviews and the evaluation of the methodological quality (Pound & Bracken 2014; Knight 2011). If these concerns are valid, the acquisition of optimal human and animal health requires us to move away from animal models towards alternative ways of pharmaceutical development and pursuits of advancements in medical technology. This event will of course improve the health of animals and, as has been argued, may (i) protect humans from any harm in terms of unpredicted side effects, (ii) benefit them by means of potential therapeutics left undiscovered and (iii) avoid any inefficient funding (Akhtar 2015).

(c) establishing the goals of health research to prevail in terms of human health, hereby reflecting certain assumptions concerning the moral status of humans and the value of health, possibly obfuscating other pathways of knowledge transferal. The empirical possibilities of a comparative approach reach beyond a unilateral interest in human health (Capps & Lederman 2016). It is beneficial to first establish these possibilities before operationalizing a comparative approach in accordance with a certain set of values and other normative assumptions.

An interspecies perspective on health will disclose the relevance of similarity while simultaneously identifying dissimilarities which require more species-specific approaches. In full awareness of any interspecies differences, one could carefully explore interspecies benefits. Diagnostics applied when determining human mental health, for example, could inform the health monitoring of great apes (Ferdowsian et al. 2013). However, disentangling interspecies difference is equally vital in order to promote health. It has been reported that whereas all hominids suffer from heart diseases, the underlying causes differ when comparing humans with the other great apes. This observation prompts the question: “Why do humans not often suffer from the fibrotic heart disease so common in our closest evolutionary cousins? Conversely, why do chimpanzees not have the kind of heart disease so common in humans?” (Varki et al. 2009). Such questions usher us towards an interspecies health policy rather than a human-centered one.

To sum up the epistemic challenge, I advocate that animal research falls under the heading “One Health” for the ways it infers and presumes health knowledge across species. Moreover, it is pervasive in human medicine and many resources flow into it. Further, a key element of OH is highlighted that affects other areas as well, namely the epistemic challenge of transferring knowledge across species boundaries. The OH concept acknowledges the similarities as well as the reciprocal susceptibility between humans and animals but should also be attentive to relevant differences. By providing an interspecies perspective on health, the OH concept should encourage investigating the epistemic value of animal models in order to benefit humans as well as animals, and vice versa. Again, as with the case of interspecies threats and benefits to health, OH serving as a descriptive approach should highlight all the relevant pathways of knowledge transferal across species. Based on specific values, one may subsequently determine the justified operationalization of a comparative approach to health. The current direction of benefits and costs pertaining to animal research reflects certain moral assumptions which may not survive scrutiny while obfuscating other pathways of knowledge transferal across species boundaries.

1.5 The ecological challenge

As discussed at the beginning of this chapter, OH goes beyond the One Medicine concept by explicitly positioning the interconnections between human and animal health against the background of their shared (natural) environment. Nonetheless, several authors on OH voice their concern about the lack of attention paid to the ecological dimension (Zinsstag 2012; Barrett & Bouley 2014). How did it come to this?

One Health highlights human-animal dependency and vulnerability in terms of health, emphasizing similarity between the two. Ecological processes on the other hand does not resemble them. Whether or not ecosystems are healthy in a metaphorical or literal sense is much less straightforward if compared to individual humans and animals. The ecosystem health concept has attracted both adamant supporters and critics (Callicott 1995; Jamieson 1995; McShane 2004), paralleling the vexed debate on the intrinsic value of nature. At the academic level, such controversial concepts could push attention inwards rather than outwards, thus resulting in complex theoretical debates that fail to affect public policy (Minteer 2011).

Ecological negligence could prove to be detrimental for several reasons. Changes to the environment may play a key role in the emergence of infectious disease (Patz et al. 2004). If one does not engage with the ecological background of disease emergence to primarily focus on the transmission of diseases between humans and animals, any subsequent measures aimed at protecting health could very well prove to be inadequate, symptomatic and incomplete. I will illustrate this point by distinguishing between a biomedical and an ecological take on the Ebola virus disease outbreak (see 1.8, below). For now, the main issue concerns: the management of zoonotic diseases should engage with the underlying ecological drivers in order to obtain a comprehensive overview of such a threat and its influence on human and animal health.

Nevertheless, emphasizing ecological drivers that underlie disease emergence still remains too limited a representation of the environment. The supporting role of ecosystem functioning in relation to human and animal health is lacking here. Moreover, ecosystems not only benefit human and animal health in terms of the services they provide, they are fundamental in the sense that they represent necessary conditions for health (Holland 2008). When outlining the relevant links, human health inevitably relies on clean water, breathable air, pollination, fertile soil, stable climate, etc. Although ecological dependence of one's health could very well lose its pertinence in daily life, ecological determinants of health are essential to supporting human health and life.

Perhaps some worry that such a through-out ecological perspective takes the OH concept too far hereby transforming it into an all-encompassing framework containing all things health-related. This objection, however, is itself question-begging. Why would it be a problem to include the ways in which human and animal health are supported by means of ecosystem services? Moreover, if these considerations were to be excluded, we might indeed arrive at profoundly inadequate and symptomatic ad hoc solutions. When taking OH to its logical consequences, we should understand animal health (including human health) from a socio-ecological perspective (Zinsstag & Schelling 2011; Stephen & Karesh 2014). Social and ecological factors together make up the fabric of our shared environment, affecting individual health in numerous and diverse ways.

If the various biological domains are interconnected and brought to bear upon each other, as I have argued is indeed the case, then a wide array of incoming issues arise for health

professionals to deal with. In that sense, OH confronts the veterinary profession, which has perhaps pushed the OH agenda most adamantly (Gibbs 2014b), to not only forwarding these issues but also to engage with the implicit background considerations. This is work to be done, as “(m)ost of the fundamental social and environmental determinants of health, such as water security, biodiversity, climate change, social justice, equitable access to resources, pollution and land use planning, have remained beyond the scope of most One Health programmes, despite their profound impacts on human and animal health and welfare” (Stephen & Karesh 2014: 377).

This broad array of factors points to another reason for the underrepresentation of the environment. If you do engage thoroughly with the ecological side of things, all kinds of incoming issues are introduced. Your area of expertise is suddenly interconnected with “fundamental social and environmental determinants of health” (Stephen & Karesh 2014: 377) transforming straightforward situations into challenging ethical conundrums. Considering the demandingness and complexity of the determinants of health mentioned above, it is perhaps no surprise to anticipate that these issues are sidestepped in practice, hereby of course restricting OH significantly.

Therefore, OH provides us with an ecological perspective on health, which results in all kinds of new considerations. Attempts to restrict the scope of OH and thus sidestep any ecological concerns appear to raise further questions. I myself do not see how interspecies and ecological determinants of health (i.e., those respectively associated with disease emergence as well as ecosystem services) can be excluded from OH consideration.

The four angles on the nature of OH (interspecies threats, benefits resulting from human-animal interaction, epistemic challenge, ecological challenge) serve a twofold purpose. First, it aims, at a descriptive level, to specify OH slightly more beyond the manner it is usually formulated in rather general terms. These four angles together present us not only with a coherent specification of an interspecies but also with an ecological perspective on health. Second, these features could also contribute to explicating any underlying values. Which threats have grabbed our attention, and which should? Whose health should be promoted? Which medical technology should we make available to individuals of other species? How should we deal with our shared ecological backdrop? Until now I have merely focused on the

above-mentioned angles without engaging with these underlying values. It is time to look at OH as a normative proposal.

1.6 The normative challenge

One Health involves an empirical perspective on health, namely that animal and human health (a) can be vulnerable to diseases originating from other species, (b) might benefit from certain interactions with other animals, (c) could be improved by generating knowledge that applies across species boundaries, and (d) are inextricably meshed with ecological processes. These four features necessitate the collaboration between scientific disciplines in order to acquire a fully descriptive overview of the relevant factors that affect health.

One Health also involves values and has been described as “the collaborative efforts of multiple disciplines working locally, nationally, and globally, to attain optimal health for people, animals, and our environment” (King et al. 2008). One Health is not only a call for breaking down the boundaries between scientific disciplines. The integration serves a purpose, as the American Veterinary Medical Association puts it, “to attain optimal health for people, animals and the environment”. Needless to say, the question is: what does this involve? Which values inform the achievement of optimal health (Hanrahan 2014)? Although the understanding of OH is normative, its generality allows for plenty of room for interpretation.

The aforementioned features are a way to specify the rather general understanding of OH in order to then facilitate a collaboration between scientific disciplines. In a similar spirit, I argue that any values involved need to be made explicit. What does it mean to attain optimal health? As stated above, in my view, these two kinds of specifications are synergetic. A better understanding of the empirical, descriptive OH features contributes to reveal the presupposed values at play. Conversely, the awareness of one’s values can help to explain how one grasps OH and its implications.

Values can shape one’s comprehension and especially one’s operationalization of OH. For example, an emphasis on zoonotic diseases primarily reflects a concern with human health. Based on the value of human health, OH is shaped accordingly. One’s focus could even be much smaller, for example, when health policy is mainly aimed at protecting and improving the health of one’s fellow citizens. In this case there is perhaps no need to invest in any

pharmaceutical developments concerning diseases which only citizens of other nation-states are vulnerable to whenever an outbreak occurs. This outcome could result in measures which disadvantage other humans, who are not members of that particular society. Or, to take a radically different perspective, animals may be considered the moral equals of humans, citizens even. Subsequently, OH will involve a more equal concern for human and animal health.

One Health is not inherently linked to a specific set of values, but it inevitably involves certain values. If one does not discuss the underlying values, OH operationalization may fail to reflect any values which, after due consideration, would be deemed correct. One Health not only shapes the curricula of health professionals but also informs the health policy at various levels, both national and international (Gibbs 2014a). It is therefore of great importance to highlight the manner in which its significance depends upon evaluative assumptions. In that sense, it mirrors the way sustainability generates societal appeal while lacking unequivocal meaning. Still, precisely “because of the very breadth of the notion of sustainability and its popular appeal, this language has the potential to structure discourse between people who have quite different values and epistemologies ... If parties to a dispute can agree that sustainability matters, then arguments will turn on the meaning of sustainability and how various policies contribute to its realization” (Jamieson 1998: 10).

One Health and sustainability offer the opportunity to bridge discourses at the level of policy, whether they are defined either by scientific discipline or an ethical outlook. Once these concepts guide action and policy, it becomes especially important to better understand their meaning and implications. To avoid the OH concept becoming meaningless, we must discuss how it relates to values. As part of this endeavor, we will have to (a) recognize OH as a normative concept which comprises not merely breaking down the barriers of scientific disciplines and fostering collaboration; the efforts of this concept are geared towards goals which need to be traced back to values, (b) reflect upon these specific values that inform OH and subject them to scrutiny. Are these values indeed those we support upon reflection? (c) ideally, embrace a health policy shaped by OH in sync with the values we hold dear.¹¹

¹¹ The concepts of politics and policy are respectively defined as “the activities associated with the governance of a country or area, especially the debate between parties having power” and “a course or principle of action adopted or proposed by an organization or individual”, see en.oxforddictionaries.com [accessed 11 September 2018]. The present thesis engages with both the political and policy issues. In terms of politics, an interest-based

Let us now examine a statement concerning the objectives of OH in order to pick out these different levels: “Whereas some may view One Health as having a singular end goal of optimizing human health, we emphasize here that the maintenance and improvement of animal health and ecosystem functioning are also primary goals of One Health, with their own inherent value separate from their impact on human health” (Barrett & Osofsky 2013: 365).

The non-instrumental value of animal health and ecosystem functioning is highlighted in order to ward off any full-blown anthropocentrism. This action affects the OH goals. However, it also requires an explanation or justification of the values professed. Whereas Barrett and Osofsky aim to present a description of OH, they also provide content to its normativity by taking a particular ethical perspective, albeit rather general. Why should we acknowledge the value of animal health and ecosystem functioning as having their “own inherent value separate from their impact on human health”? In spite of disputing certain current moral norms and values, they merely challenge them by providing their personal viewpoints without disclosing any further argumentative support. This is the launch of a discussion rather than its conclusive endpoint.

Considering the plurality of values people may endorse upon ethical reflection, dissension is to be expected. Here the perpetual disagreement between moral philosophers is a case in point. This phenomenon need not be problematic, if you consider a discussion on values as a valuable itself. Perhaps it is merely relevant to highlight the various sets of values that could inform OH in order to prevent a non-reflective attitude being implemented to OH in practice. Rather than ending the quest for an ethical framework to once and for all steer moral actions (which is indeed not unique to OH) ethics require taking a step back to reflect upon how your values inform OH.

A number of moral values attract less debate than others, maybe even to the point they belong to the values we hold close to our hearts. Human rights may be among them, a thought I will further explore (see 1.7, below). Rather than revealing the differences between normative perspectives, recognizing the normative OH goals also presents us with opportunities to provide content to these goals by means of the values we hold dear. In other words, we should

human rights framework will be discussed here. When applied to great apes, this discourse will, in my opinion, lead to the inception of a genuine interspecies health policy.

make an effort in order to not only highlight the differences in our ethical viewpoints but also to search for a common ground and then shape health policy accordingly.

1.7 A universal rights perspective

If OH aims at attaining optimal health for humans and animals against the backdrop of ecological interdependency, what does this entail specifically? Value assumptions as to everything optimal health involves often remain implicit. This could prove to be problematic, if these values are either not justified or do not reflect what we genuinely believe to be of value. This is the reason why we need to single out the values shaping OH in practice and at the level of policy to then subject them to reflection. Should we go any further and explore a clearly normative outlook with respect to OH?

Such a shift may be both possible and plausible. Dissent concerning values will be inevitable in many OH discussions, in particular with respect to the moral status of non-human animals. However, human rights imply a moral standard less subject to controversy. Furthermore, a range of political, ethical, and theological justifications supports such entitlements (Nussbaum, 2006), which imbues those rights with a pragmatic relevance to health policy. Despite a wide array of worldviews, many agree that human rights involve the basic entitlements of individuals to live a minimally decent life (Ashford 2007). I wish to take this stance seriously within the OH context.¹²

Setting off from the premise of human rights could have significant implications for OH. Considering a further exploration hereof, it is helpful to look into the concept of sustainable development. In the fourth quarter of the 20th century, various ecological events led to concerns for the natural environment and the way it supports human life (Carson 1962). In 1983 this apprehension was sufficient for the United Nations to establish the World Commission on Environment and Development which is now known as the Brundtland Commission. It issued a report entitled “Our Common Future” in which the concept of sustainable development is actively encouraged. Sustainable development is defined as the “Development that meets the needs of the world’s poor without compromising the ability of

¹² I will defend the plausibility of an ethical justification of human rights, specifically the interest-based account of moral rights in the course of this thesis (see chapter 3, section 1-2). At present, the scope of human rights is regarded as a credible normative reference point.

future generations to meet their own needs”.¹³ Sustainable development links a concern for those disadvantaged by poverty with a concern for the environment (Jamieson 1998).

Meeting the needs of the current poor and future generations is understood as a rather stringent requirement: “The most fundamental norm proposed by Brundtland was that every person has a fundamental human right to live in an environment adequate for their health and wellbeing” (Hayward 2009: 282). The objectives of sustainable development were forwarded in terms of human rights, making these objectives a matter of basic justice. Humans should, as a matter of rights, not live in severe poverty or be deprived from vital ecosystem services. This statement sounds reasonable and compelling. It is nonetheless easy to overlook the implications of such a claim, as:

The achievement of this right, for every person would involve a more radical transformation of global relations than seems to be supposed in most discussions of sustainable development. For it cannot be achieved without also achieving a range of basic social rights; yet the environment also sets constraints on economic activity in the aggregate, and thus on the generation of the wherewithal to fulfill those rights. Considering the conditions of possibility of its achievement would thus suggest a profound challenge to the system of private property rights which allows some to draw immense profit from the world’s natural resources while others are deprived of even the basic necessities of life. (Hayward 2009: 282)

If we really believe that humans are entitled to an environment including sufficient quality to support his or her personal health and well-being, in addition to right not to live in poverty, a profound system change is required. At any rate, currently, we are utterly failing to live up to such convictions. Moreover, as Howard points out, such beliefs challenge the numerous other beliefs that shape our institutions e.g., the ability to own private property and consume natural resources beyond what could reasonably be considered sustainable in terms of the definition forwarded by the Brundtland Commission.

Acknowledging the basic entitlements of humans entails significant challenges to our current institutions and way of life. Nevertheless, one could argue that sustainable development is not

¹³ <http://www.un-documents.net/ocf-02.htm> [accessed 1 October 2018].

sufficiently anthropocentric in practice, as the current use of natural resources deprives many humans from the necessary environmental conditions for retaining their health and well-being (Hayward 2013a). Moreover, a fact humans in developed countries may not notice in their day-to-day experience concerns the fact that their reliance upon ecosystem services in support of their health is already threatened at various levels (McMichael 2009). The consumption of natural resources therefore disproportionately disadvantages humans populating developing countries, while simultaneously undercutting the ecological conditions for human health in developed countries in the long term.

Human rights provide a lens that is reasonable and compelling in terms of the vital human interests at play, whereby at the same time a challenge in terms of its demands unfolds. Of course, the concept of human rights has been criticized (e.g., Geuss 2001). However, those who agree on the fact that these rights impose a reasonable threshold level of justice will have to consider the sweeping implications of such basic human entitlements for sustainable development.

How does this translate to OH? Similar to OH, value assumptions shape both the understanding and the operationalization of the sustainable development concept. It is pointed out that “While those who were most concerned with poverty could emphasize the word ‘development’ in the Brundtland formulation, environmentalists could just as well emphasize the word ‘sustainable’ (Jamieson 1998: 183-4). The same applies to OH; as we have seen in the present chapter, OH may transform its color and shape depending on the profession and values of each individual.

The OH concept furthermore shares with sustainable development an ecological outlook on the health of humans, albeit more comprehensive by including interspecies interactions and relations. Whereas sustainable development did, for instance, underline the importance of biodiversity, OH more explicitly includes animals in all shapes and sizes, irrespective of any contexts, hereby causing interspecies relations to become an integral part of health policy.

The approaches differ with respect to human rights. Where sustainable development was grounded in a concern for human rights, discussions on human rights are not at the forefront of OH action or policy. The Manhattan Principles, for example, do not mention human rights as a normative reference point for OH and surprisingly nor does the 2010 FAO-OIE-WHO:

Tripartite Concept Note¹⁴ (OIE, Food and Agricultural Organization, & World Health Organization 2010), considering this collaboration comprises a joint endorsement of OH by the Food and Agricultural Organization and the World Health Organization, both specialized UN agencies, together with the World Organisation for Animal Health (OIE). In general, OH rather abides by pursued objectives: it is understood to serve as a call for multidisciplinary collaboration in order to achieve optimal health for humans, animals, and the environment.

I argue we should observe OH as being an ecological and interspecies challenge to public health policy, rather than a mere call for multidisciplinary collaboration. This challenge is not the outcome of tearing down the existing silos or disciplines between research practices (albeit challenging in itself) but the result of taking the ecological and interspecies determinants of health seriously and bringing them to bear on human rights. I do not see how the original objective of the Brundtland Commission i.e., protecting the natural environment to the extent it provides the conditions necessary for the health and well-being of humans) could somehow lack any relevance when considering the OH concept. Achieving optimal health within the OH framework would then entail that humans have a right to protect their health not only at the level of the natural environment but also with regard to relations with other species.

In addition to the endorsement of human rights by the Brundtland Commission, there is yet another reason why human rights are relevant to OH. Although the OH scope appears to be limitless, it does indeed concern health primarily. One Health sketches the interspecies and ecological relations upon which human health depend, hereby informing policy directed at such determinants. Health is not the only issue affecting human lives, but it does signify a special value. Humans often have a wide range of wishes, ambitions, and desires but these do not all impose stringent moral demands on others, let alone any demands of justice. Health is different and special, according to certain thinkers (e.g., Daniels 2007; Venkatapuram 2013; Nielsen 2014). What makes it so important to these political philosophers? They all argue that health is essential in the way it enables humans to live their lives according to their personal values and ambitions. Health provides individuals with a certain range of opportunities, which may be subject to considerations of fairness and equality. This characteristic of health has led

¹⁴ http://www.who.int/influenza/resources/documents/tripartite_concept_note_hanoi/en [accessed 1 January 2018].

to postulations implying we should safeguard a certain level of health functioning in order to create equal opportunity for all (e.g., Daniels 2007; Nussbaum 2006).

Humans only have access to a specific range of opportunities if they are healthy, which by and large depend upon health policy. Individual health can be protected and promoted in many ways, prompting, among others, the following questions: do individuals have access to adequate health care? To which level does a socio-economic status correlate with health outcomes? Which factors contribute to one's health agency, thus providing individuals with the ability to take decisions on their personal health? These kinds of questions cover various determinants of health, hereby reflecting the broadening of the relevant considerations pertaining to health justice beyond the access to adequate health care.

Ecological determinants of health have remained on the periphery of public health, to only be surpassed by the lack of attention for interspecies relations. One Health apparently points out what one could refer to as the ecological and interspecies determinants of health, all of which are potential objectives for measures aimed at protecting and promoting health. In this manner, OH deals with health policy whereby concerns of justice are triggered. Moreover, a further dimension to the social determinants of health is added, highlighting the ecological and interspecies factors.

The question is: how should we configure our relations with other animals against the backdrop of a shared environment in order to safeguard individual human health? Needless to say, this is a general issue requiring specification according to a particular context. Our relations with other animals are intricate. Answering this question therefore requires ample empirical data. Importantly, of course, it also involves values. Determining, for example, the cut-off points as to whether or not implement the measure of culling of certain animals cannot be executed within the confines of descriptive science alone (Degeling et al. 2016). Thus, in order to determine how to configure human-animal interactions, we will have to unite relevant empirical information and the values we deem significant.

Apparently, as a result of the above discussion, the following two reasons prompt us to take human rights seriously within OH. First, by means of: (a) comparing OH to sustainable development in order to underline the need for a human rights perspective. The original acknowledgment of human rights by sustainable development then follows from recognizing

the environmental conditions necessary for human health. One Health also establishes the connection between human health and the environment, even venturing further by explicitly including animals and interspecies relations, without utilizing the language of human rights. I argue that the OH concept is relevantly similar to sustainable development in its ability to shape health policy. If we therefore take human rights seriously when pertaining to sustainable development, we should do likewise as to OH informed policy.

Second, (b) by looking at the characteristics of health itself, as they are discussed within the philosophical debate of health justice. Various political philosophers acknowledge health as special as it enables individual humans to pursue a reasonable range of opportunities. Furthermore, health is dependent on external factors, ranging between access to health care and other social determinants e.g., socio-economic status. I argue that whenever we view the above-mentioned determinants to be not only morally relevant, but also even to be matters of justice (as they determine the content of a just health policy) we should also need to consider the weight we attribute to ecological and interspecies determinants of health, all of which fall within the purview of OH.

What does taking human rights seriously in the operationalization of OH imply? If we limit ourselves to human entitlements, as discussed above, a critical viewpoint regarding our current interactions with other animals has already been delivered. Considering for example livestock production, in very general terms, its impact on ecological processes is quite staggering as it contributes among other things substantially to global warming by means of emissions (Steinfeld et al. 2006), forest fragmentation and destruction (Patz et al. 2004), decrease of biodiversity (Cardinale et al. 2012), inefficient use of nutrients compounding food insecurity and inequality (Fanzo 2015), and an increased risk of the emergence of infectious diseases (Jones et al. 2008). In addition, in the light of OH and interspecies relations, noteworthy risks are associated with keeping large numbers of animals relatively close to each other (Akhtar 2012).

Considering the documented impact of livestock production on various ecological processes of biodiversity, a system modification appears required in order to safeguard human health.¹⁵

¹⁵ The ecological ramifications of intensive livestock farming also touch upon the discussion on human population growth and the pressures on ecological systems. For instance, we read in the Brundtland Report sub

It has been advocated that, in order to improve public health, we should start improving the way animals are treated. As Akhtar (2012: 8) states, “The emergence of many recent pathogens can be attributed, directly or indirectly, to the intensive confinement of animals raised for food and the poor treatment of animals appropriated for the wildlife trade. The strategies currently used to address EIDs would be much improved if efforts to improve the treatment of animals were integrated into public health policies.” Such a broad and multispecies outlook fits seamlessly together with OH. Furthermore, the focus on the impact on human health rather than on the interests of animals themselves fits in with the strategy to not only adopt human rights as a reference point but also to avoid any controversy regarding the moral value of animals. Akhtar does not discuss human rights, hereby taking the moral importance of human interests more or less as an established fact. From a human rights perspective, one might argue for the even more demanding claim: humans have the right not to be subjected to interspecies configurations that impose serious threats to their health, a line of argument I will flesh out in chapter 5.¹⁶

To summarize, in accordance with the Brundtland Commission, I assume the human right to having an environment capable of supporting one’s health to be plausible. If humans have rights based on their interest to live a minimally decent life, this therefore includes the protection and promotion of health, the degree of which needs to be specified. Starting off from this right, I furthermore claim that humans have the right not to be subjected to configurations of interspecies relations that impose serious threats to their health. These claims follow from taking human rights seriously within OH understanding and operationalization.

We now will look the outbreak of Ebola virus disease in West Africa, 2014-2016, affecting Guinea, Liberia and Sierra Leone, to explore a multispecies perspective on health policy. I will first discuss the lack of vaccines offering protection against this virus as well as why this plight should be viewed as a human rights issue. Many critical issues can be raised concerning the response of the international community and the shortage of vaccines. However, we

Point 41: “In many parts of the world, the population is growing at rates that cannot be sustained by available environmental resources, at rates that are outstripping any reasonable expectations of improvements in housing, health care, food security, or energy supplies”.

¹⁶ When discussing animal research, Akhtar (2015) postulates we do harm humans by continuing to rely on animal models in pre-clinical research in which distributive concerns (i.e., pertaining to how we shall distribute the available resources and who is to benefit) and an epistemic concern (i.e., do animal models contribute to human interests?) are involved.

should also pay attention to the underlying drivers of disease emergence. To that effect, the emphasis which OH places on ecological and interspecies determinants of health is particularly relevant.

1.8 The 2014 Ebola virus disease outbreak in West Africa

The Ebola virus disease outbreak (subtype Zaire) in West Africa, which emerged in December 2013, sadly demonstrates a failure at various levels to address a serious threat to human health. The outcome of this nonfulfillment comprises:

(a) the behindhand response delivered by the international community represented by the UN World Health Organization. Médecins Sans Frontières had not only been active at the forefront of this Ebola virus disease outbreak since March 2014 but had also repeatedly urged the international community to become involved, without any immediate effects. Only months later, on August 8, did the WHO declare the Ebola virus disease outbreak to be a public health emergency of international concern, providing the much needed momentum in order to “unlock funding and activate expert capability faster”.¹⁷ This belated response from the WHO to the evolving outbreak reflects a failure of health policy at the level of international institutions, as the WHO itself has acknowledged (Moon et al. 2015).

(b) the absence of a vaccine against Ebola virus disease. Needless to say, this predicament restricted the ability to protect individuals at risk, contain an outbreak, and treat those infected. Considering the first occurrence of Ebola virus disease in 1976, the number of outbreaks during later decades, and the voiced concerns about its pandemic potential, it is quite remarkable that no vaccines had been developed at the time of the Ebola virus disease outbreak in West Africa (Karan & Pogge 2015).¹⁸ This situation is all the more disconcerting when taking into account that the intense efforts the research community made in order to develop a vaccination at very short notice in response to the outbreak were apparently met with success (Huttner et al. 2018).

Pharmaceutical incentives may explain the unavailability of vaccines. For, “Had there been significant Ebola outbreaks in affluent nations rather than in Sub-Saharan Africa in the past few decades, we would likely have an arsenal of medications in stock today” (Karan & Pogge

¹⁷ <https://www.msf.org/ebola-pushed-limit-and-beyond.html> [accessed 1 October 2018].

¹⁸ <https://www.cdc.gov/vhf/ebola/outbreaks/history/chronology.html> [accessed 6 July 2017].

2015). Pharmaceutical developments appear the result of financial incentives rather than health needs. This phenomenon is also the reason why Karan and Pogge voice their doubt concerning the prospects for those most in need of vaccines and medical treatment against Ebola virus disease in the long run: “while the current epidemic has spurred a new race to develop Ebola vaccines and treatment regimens, the current patent system makes it unlikely that people in the most afflicted nations will have access to such vaccines or medications when they are brought to market without the assistance of development aid initiatives from the United Nations (UN), World Health Organization, the GAVI Alliance and other multinational global entities” (Karan & Pogge 2015).

The lack of attention for the health needs of humans affected by Ebola virus disease reflects an injustice. Institutions and regulations disadvantage those already disadvantaged. The way they are set up impedes the protection of human rights. Correcting this requires a restructuring in accordance with the demands of basic justice. Human rights question these institutional configurations because they fail to meet critical health needs. This is unfair to those who are disadvantaged by this specific institutional set-up. Karan and Pogge argue that this Ebola virus disease outbreak in West Africa and the lack of vaccines illustrate that we need to restructure the pharmaceutical developments in order to enhance its ethicality. Instead of forwarding some other incentive, Karan and Pogge also argue the need for establishing a Health Impact Fund, which allocates resources on the basis of meeting health needs.

I endorse these viewpoints. Institutions should reflect the most basic requirements of humans, formulated in human rights. Taking these rights seriously results in a critical appraisal of the current institutions, hereby frequently pointing towards change at a fundamental level. On the one hand we have Hayward who explains how the human right to an environment ends up probing the limits of property ownership. On the other hand, Karan and Pogge challenge the currently institutionalized modus operandi pertaining to pharmaceutical developments.

In order to better protect human health in the face of any emerging infectious threats, while acting in accordance with human rights, we must address the capacities of immediate response and preventive action. Implementing OH in a manner that primarily benefits people in developed countries reinforces inequality. Whereas Ebola virus is obviously a OH topic, from a human rights perspective, the issue is now: how to best protect the health of all

humans involved? It is unfair to uphold institutions and regulations geared towards the health needs of the well-off, both in case of emergency response and pharmaceutical development.

How does this relate to the four features of OH, to wit, interspecies health threats, interspecies health benefits, trans-species knowledge transfer, and the ecological perspective which have all been discussed and introduced above. In this case, of course, considering that Ebola virus comprises a zoonotic pathogen, the relevance of interspecies threats, the first above-mentioned feature, is obvious. However, in addition to the devastating impact on humans, Ebola virus disease also affects non-human species (Thompson & List 2015). With fruit bats as the suspected source, Ebola virus can be transmitted to other mammals including species of duikers and of Hominidae (great apes).¹⁹ Albeit difficult to establish the impact of such infectious diseases in the wild, indications point towards certain great ape communities being decimated by the introduction of Ebola virus (Ryan & Walsh 2011). Moreover, if great apes are hunted for bush meat, humans could perhaps be exposed to Ebola virus in the process of slaughtering their catch. In fact, this route has triggered several smaller Ebola virus disease outbreaks in the past.²⁰ Therefore, in order to get a full overview of the Ebola virus threat, we need to include non-human species as well. Considering the potential threat of zoonotic disease transmission from apes to humans, any incoming policies should for example strive at minimizing human-ape interaction, hereby including an enforced prohibition on the hunting of great apes for bush meat and pet trade (Walsh et al. 2003).

Nevertheless, even if measures to discontinue hunting activities prove successful, minimizing human-ape interaction remains a challenge. Various graded human influences increasingly characterize landscapes (Hockings et al. 2015). Several great apes live in close vicinity of human dwellings, on occasion to the effect of them raiding crops or entering villages (Krief et al. 2014). These events touch upon yet another angle on OH, to wit, the health effects accruing from interspecies interaction. This situation calls for an assessment of the interactions between humans and great apes. Evidently, hunting activities impose an imminent threat to the health of great apes. In addition, this and further examples of habitat encroachment may also entail other, more indirect, negative effects, for instance, by triggering stress and socio-behavioral transformations. Prolonged stress could decrease the functioning of immune systems, rendering individuals vulnerable to other health threats (Klailova et al.

¹⁹ https://www.unicef.org/emergencies/ebola/75941_76129.html [accessed 30 October 2017].

²⁰ <https://www.cdc.gov/vhf/ebola/outbreaks/history/chronology.html> [accessed 6 July 2017].

2010). Hence, OH requires an assessment of the social-ecological context which humankind and animals share to then safeguard the socio-ecological determinants of health.

And, as indicated above, in order to provide full protection against the Ebola virus threat, we also have to develop vaccines. Considering that great apes are also endangered, we could wonder whether we are obliged to protect them against the Ebola virus threat. It is argued that OH provides us with an opportunity to look into the threat imposed by infectious diseases from a shared perspective (Capps & Lederman, 2015). Protecting humans against Ebola virus disease could go hand in hand with conservation objectives, when observing the impact it has on great ape communities (Leendertz et al. 2017). If we were able to protect these communities against Ebola virus disease by means of vaccination, this would then entail a reduced risk to human communities.²¹

Let us now return to the issue of pharmaceutical development and its relation to health needs. As we have seen, Karan and Pogge (2015) compellingly reveal the injustice regarding the way in which pharmaceutical developments are geared towards benefitting those residing in the developed world. However, should we not look beyond species boundaries in the critical appraisal of the history of the development of vaccines against Ebola virus disease? While highlighting those humans most vulnerable to a pandemic, Karan and Pogge do not mention the susceptibility of great apes to Ebola virus infection. In an effort to create a more justifiable configuration of institutions in order to reflect pressing health needs, Karan and Pogge overlook the interest of great apes. The predominant financial incentives of pharmaceutical developments do indeed hugely distract from human health needs, leading to an inequality between humans whereby the health interests of other hominids are obfuscated too.

If we next address the third feature of OH i.e., the ability of knowledge transfer across species, a genuine interspecies overview of the Ebola virus unravels. Although the utilization of great apes in medical research is practically banned (see chapter 7), in the face of imminent threat with the magnitude of the likes of Ebola virus disease, one may turn towards great apes as animal models again (perhaps even with the additional argument of benefitting the apes in the process of doing so (Edwards et al. 2018; Capps & Lederman 2015)), thus bringing up the challenge of generating knowledge to be applied across species boundaries.

²¹ Whether or not we should vaccinate great apes in the wild against diseases (e.g., Ebola virus disease). The reason for choice will be addressed in chapter 7.

The issue of developing a vaccine to protect against Ebola virus disease presents us with the following considerations: is it ethically permissible to use (a) great apes in medical research in order to protect humankind against Ebola virus disease? and (b) great apes (e.g., chimpanzees) in medical research in order to protect other chimpanzees living in the wild against Ebola virus disease?²²

Human rights provide an interesting starting point to address these issues. The Great Ape Project (GAP), instigated by philosophers Paola Cavalieri and Peter Singer, also sets off from human rights to next explore our interactions with other non-human hominids. Despite taking human rights as a normative reference point, their enterprise has since 1993 challenged the human-centeredness of human rights. If humans are entitled to basic justice because of being human, then how does this translate to non-human Hominidae? The GAP does not disagree with human rights. In fact, it assumes the legitimacy of those rights while striving to broaden its scope primarily because of a similarity between humans and other hominids in genetic as well as cognitive terms. Equality also applies to great apes, as they are relevantly similar to humans. Moreover, it places the burden of proof on those who restrict the scope of human rights to humans only primarily because of species-membership.

Whether or not the GAP succeeds partly depends on how one conceives human rights. Perhaps humans significantly differ from other animals in a manner that attributes rights to the former while withholding them from the latter. References to dignity, for example, may single out humans as being exceptional in moral terms, which passes the buck, because now one could ask why dignity is reserved only for humans (Nussbaum 2006; Tasioulas 2014)? The GAP appears to have a case in point when highlighting similarities and discrediting the moral relevance of any remaining differences between humans and great apes.

The GAP has proposed three moral rights: the right to life, the right to liberty, and the right not to be tortured. These are basic rights, in the sense that justice may require even more, and negative rights, in the sense they mainly impose duties of restraint on others. I will investigate these rights more closely in the course of the following chapters to then argue they must be specified according to an interest-based theory of moral rights.

²² Note that the epistemic challenge is much less substantial for chimpanzees living in the wild as the same species are concerned.

At present, we must realize that these rights do not contribute a great deal to informing a health policy in shared human-ape landscapes other than diminishing the impact of human action on the lives of great apes. To what extent should we accommodate the needs of great apes in these situations? Or, do the interests of humankind override the interests of apes with the exception of, to put it bluntly, killing, capturing or torturing them? While the GAP ambitiously aims at extending basic rights to non-human hominids, it is somewhat self-effacing when proposing its gamut of rights. This attitude leads to a discrepancy if, as discussed above, human rights play a role in not only devising a just health policy regarding any pharmaceutical developments but also supporting ecological conditions pertaining to health, when the set of moral rights of great apes is limited to the three above-mentioned rights as the GAP proposed.

If great apes have negative rights because they resemble humans in morally relevant ways, does the same reasoning not also apply to positive rights, too? Although the scope of human rights, especially positive rights, is controversial and subject to intense philosophical debate (O'Neill 2005; Geuss 2001), the range of human rights may very well encompass more than the three moral rights the GAP proposes. In the following chapters, I will not only discuss the human right to health but also the extent to which it should include ecological and interspecies determinants of health and whether it should pertain to great apes as well.

Looking into the Ebola virus disease outbreak from an ecological perspective – the fourth feature of OH – and disentangling the underlying drivers of disease emergence, the importance of an such a perspective becomes apparent:

The Ebola epidemic in West Africa is not merely a biomedical problem that can be seen in isolation and dealt with only through emergency medical rescue processes. The ethical dilemmas surfaced by this epidemic are also not confined to the usual micro-ethical problems associated with medical care and medical research. The pandemic, as one of many manifestations of failed human and social development that has brought the world to dangerous 'tipping points', requires deep introspection and action to address upstream causal processes. (Benatar 2015: 1)

A OH perspective on the outbreak of an infectious disease, in this case Ebola virus, would see to an investigation of the underlying ecological drivers (Capps & Lederman 2015; Thompson

& List 2015). Whereas such outbreaks happen haphazardly, and are thus difficult to predict, a number of relevant risk factors have been reported e.g., recent deforestation (Olivero et al. 2017). All manifestations of deforestation and of the encroachment of wildlife habitats contribute to more interaction taking place at the human-wildlife interface, which heightens the risk of pathogens jumping over species boundaries (Patz et al. 2004). Human health, being dependent upon ecosystem services, is vulnerable to ecological disturbances (e.g., deforestation, a decrease in biodiversity). Importantly, a large number of these disruptions are economically driven. The goal pursued by local communities in order to escape from poverty reinforces the goal of (inter)national business to be profitable; a combination of these two factors often profoundly impacts the ecosystems, creating a downward spiral. Next, the ecological consequences of such economic forces, to wit, a loss of biodiversity and/or an increased chance of the emergence of infectious disease, often jeopardizes the lives of those already disadvantaged (Bausch & Schwarz 2014).

In order to get a grip on the outbreak of emerging infectious diseases, we thus need to research the interplay between ecology and economy.²³ As has been pointed out: “Poverty drives people to expand their range of activities to stay alive, plunging deeper into the forest to expand the geographic as well as species range of hunted game and to find wood to make charcoal and deeper into mines to extract minerals, enhancing their risk of exposure to Ebola virus and other zoonotic pathogens in these remote corners” (Bausch & Schwarz 2014: 4).

Such a chain of events illustrates how an ecological and interspecific perspective on health facilitates numerous other considerations, not least of all those pertaining to human rights. Poverty forms a major cause of ecological devastation. And, the lack of health care affects not only those without any access hereto but also the chances of containing outbreaks.²⁴ The threat of emerging infectious diseases urges a critical evaluation of emergency response capacity as well as pharmaceutical developments. However, if we see the Ebola virus disease outbreak primarily as a biomedical problem, we fail to take its underlying drivers seriously.

²³ Indeed, this again emphasizes the overlap between the concepts of sustainable development and of One Health.

²⁴ Furthermore, if a human is infected with a zoonotic pathogen, the lack of an adequate health care infrastructure increases the chances of a full-blown outbreak (Bausch & Schwarz 2014). This outcome places the impoverished at a double risk, as they are exposed to the danger of a zoonotic disease being provided without the access to an adequate medical care. Bausch and Swartz further report that the absence of any adequate governance in the face of a potentially large-scale outbreak makes matters even worse.

That is the reason why a “One Bioethics” has been advocated, to deconstruct the barriers between environmental philosophy and biomedical ethics (Thompson & List 2015). Indeed, taking an upstream approach to the vulnerability of health includes breaking down barriers for instance between environmental ethics on the one hand and biomedical ethics on the other. However, a narrow disciplinary focus may on occasion be appropriate, for example, when comprising the emphasis of biomedical ethics on the importance of consenting to medical treatment. Sub-disciplines of applied ethics overlap and inform each other in many ways (Verweij & Bovenkerk 2016).

Nonetheless, viewing the outbreak of Ebola virus disease primarily as a biomedical problem is especially problematic as it affects basic entitlements of humans, such as freedom from poverty and the access to basic health care. It is not just ethics, but justice that must be understood against the background of ecological processes and interspecies relations. If we accept human rights as a normative standard, we also need to determine the demands of human rights in the light of OH as well as their scope: do only humans have such basic entitlements?

1.9 Concluding remarks

The OH concept involves in general terms a call for collaborations between various health professions in order to not only recognize but also address the links between humans, animals and the environment to then achieve optimal health for all. Notwithstanding this praiseworthy aim, it proves to be problematic considering its vagueness, especially if not subjected to scrutiny in practice. Despite this broad definition, OH for the major part engages with threats to human health, for example, zoonotic diseases or antimicrobial resistance. To avoid this limited starting point pertaining to OH, I suggest distinguishing between the following four features whereby (a) interspecific threats, (e.g., zoonotic diseases) form a single feature and involve the protection of health, (b) interspecies relations are beneficial in terms of health outcomes; other than protection, as this result involves health promotion, (c) human health is viewed alongside animal health against a shared environment which allows for comparative approaches, giving rise to epistemic concerns: to what extent can health knowledge be applied across species boundaries? and (d) OH places health against the background of ecological processes, extending it beyond a mere cooperation between human and veterinary health professions.

In combination, the above-mentioned features contribute to further integrating health considerations across species boundaries, help to gain insight into complex health problems and prevent misunderstanding pertaining to the meaning of the concept. Furthermore, they can serve to explicate values. For example, if one only looks into zoonotic threats, the direction of a threat (moving from animals to humans) could well reflect anthropocentric values. Conversely, overlooking certain ecological concerns, however distal they may be, could reveal a bias towards a certain group of humans to the possible disadvantage of others. These values need to be justified, especially as OH gains more and more influence on health policies, triggering questions of distributive justice; who should cooperate with whom and working towards which goal?

Whereas both a debate on the values at play and the awareness of disagreement is important, recognition of the normative assumptions of OH also allows for opportunities to search for common ground. I have indicated the potential of human rights to function when taking on this role, especially as considerations of justice are currently lacking in the majority of descriptions of OH. Moreover, if one acknowledges human rights as basic entitlements of justice, to then apply it to the OH framework, we must reevaluate the demands of such entitlements much in the same manner that sustainable development has demanded in relation to its original understanding. If humans have a right to living a (minimally) decent life, this involves certain assumptions regarding ecological processes upon which they rely for their health and well-being. The OH concept goes even further when highlighting interspecies relations as determinants of health. In addition to the claim of having access to an environment of sufficient quality to support one's health and well-being and to living a life of (minimal) decency, humans should just as well acquire the right to a configuration of interspecies relations that protects and promotes health.

As discussed above, human rights reflect basic entitlements that provide a lens to evaluate institutions. The 2014-2016 Ebola virus disease outbreak demonstrated a failure by the international community as to responding adequately and in time. Moreover, the shortage of vaccines demonstrated a failure of pharmaceutical developments and institutions to protect individual human health, as the Ebola virus disease threat had been well-known for decades. In addition to these concerns, we should understand that such outbreaks are not just a biomedical issue, but also thoroughly ecological. The recognition of interdependency, both

interspecies and ecological, opens up all kinds of new considerations, not least of all those pertaining to basic human entitlements such as to be free from poverty.

In addition to these concerns, understanding the protection against diseases such as Ebola virus disease in terms of human rights may be overly anthropocentric, all the more because great apes as well as humans can fall victim to such diseases. Following the GAP, great apes are relevantly similar to humans in terms of genetic makeup and cognitive terms, which puts pressure on the concept of human rights being restricted to humans only. If we were to accept this premise, and its implications, the three basic rights declared by the above project still remain rather minimal, thus prompting the question: do great apes have a right comparable to the human right to health as has been tentatively sketched in the present chapter? Before taking up this question, we have to start bottom-up, beginning with the moral status of non-human animals.

2. Considering animals: moral status and interests

In which manner should animals enter into our moral deliberations? Does an animal have moral status, and if so, on which criteria is this discussion based? This chapter will focus on these basic questions hereby providing a basis for the following chapters.

Many argue that sentient animals deserve direct moral concern based on their subjective experience of the world around them. Presuming that an animal does indeed have a moral status, what does this conclusion entail for humans in terms of moral obligations? This assumption requires that we know what is conducive to the lives of animals. How do we know what is in their interest? And, to what extent does the ability of individuals as to making meaningful choices regarding their own subjective good affect the interests of animals?

The final part of the present chapter will look closely at several distinct interests: the avoidance of suffering, continued life, freedom and ways of life. To what extent do cognitive capacities affect one's interests?

2.1 The moral status of animals

The boundaries of the realm of moral status are notoriously controversial. For, a historic perspective reveals a continuous questioning as well as a vindication of the lines drawn, with an ever-expanding range of the scope of moral and political status. Especially during recent decades, animals have been the subject of serious philosophical debate. The starting points hereof are presented by the Australian moral philosopher Peter Singer in his magnum opus entitled *Animal Liberation: A New Ethics for our Treatment of Animals*, originally published in 1975, in which he takes issue with, while at the same time popularizing the term, "speciesism". In his opinion, this form of discrimination involves "a prejudice or attitude of bias in favor of the interests of members of one's own species against those of members of other species" (Singer 1990: 6). Morality demands we should consider the interests of all involved based on significance rather than on species-membership.

What causes speciesism to be morally problematic? Is Singer not overly quick in jumping from a mere empirical finding to a moral conclusion, hereby falling victim to the widely disparaged is-ought problem that blocks such reasoning? Singer sets off from the subjective experience of animals, their sentience which provides them with the ability to feel both pain

and pleasure. Sentience is present throughout the animal kingdom.²⁵ The crux is that much like humans, sentient animals can undergo negative experiences (e.g., suffering, anxiety, pain) as well as experience pleasure and affection. These experiences pluck our moral strings, as it were. Humans and animals therefore, as Singer demonstrates, share an interest in avoiding any suffering. If we would recognize this interest in humans, it is question-begging to disregard this interest in other species merely because they belong to another species. At least, vertebrate animals share the neurobiological make-up required for these subjective experiences²⁶ which separates them (and us) from non-sentient beings in a morally relevant manner, as the argument against speciesism goes. Non-sentient beings cannot subjectively experience what happens to them, rendering sentience an important and, as certain scholars (Cochrane 2013b; DeGrazia 1996; Donaldson & Kymlicka 2011; Feinberg 1974) state, not only a necessary but also sufficient condition for establishing moral status. In other words, sentience confers the individual something that appears to touch upon the nature of morality.

Starting with sentience deviates from understandings that link moral status to the capacity for moral agency. A well-known example hereof is Immanuel Kant (1724-1804), who argues that animals are not directly morally considerable as they lack any capacity for moral agency and autonomy. It is however unclear why the capacity for moral agency should be a necessary condition for moral status.²⁷ Should we not, for example, take into account the interests of humans who lack this capacity (Cochrane 2012)? Perhaps the interests of children matter by reference to their future autonomous agency? Nonetheless, such deferral to the future does not convince due to the following two reasons: (a) one could argue that the present interests are of moral relevance, rather than a roundabout justification referring to their future self (DeGrazia 1996) and (b) if we accept the reference to the future self for the sake of the argument, this results in people whose lack of moral agency is of a more permanent nature being omitted from the scope of any direct moral consideration (Nussbaum 2006). These arguments obviously also apply to non-autonomous animals. It is apparently plausible to claim that moral status follows from the capacity to subjectively experience the world.²⁸

²⁵ Determining the exact extent of its presence in animal species is difficult at the frontiers as the intense discussion on the sentience in fish and insects reflects. For a rich source of these debates, see *Animal Sentience. An Interdisciplinary Journal on Animal Feeling*: <https://animalstudiesrepository.org/animsent/>

²⁶ Non-vertebrate animals (e.g., cephalopods) also display high levels of consciousness, see DeGrazia 2014.

²⁷ For a defence of animal moral status within a Kantian framework, see Korsgaard 2013.

²⁸ Viewing moral status in terms of degrees has been suggested (DeGrazia 2008; Warren 1997) as has distinguishing between moral considerability (matter morally) and moral significance (the extent to which one matters morally) (Goodpaster 1978). I assume moral status in rather absolute terms. You either have this status or you do not as it is tied to the capacity for sentience.

It has been argued that we even need to expand our moral horizon a step further. Plants can become diseased and perish if exposed to harsh conditions. In that sense, they appear to take an interest in staying healthy. Moreover, such interests may even impose a moral obligation upon others to ensure that plants remain healthy.²⁹ Such a biocentric perspective considers individual life to be a central moral criterion whenever determining moral status.³⁰

This perspective, in my opinion, conflates biological needs with the condition for moral standing. Indeed, it appears plausible to state that individual plants take an interest in remaining healthy and avoiding diseases. However, these interests appear to categorically differ from the interest that humans and other sentient beings share as to being healthy. It would perhaps be more accurate to describe the interests of plants as biological interests, which does not comply with the above-mentioned interests which relate to subjectivity and sentience.³¹ Biological interests reflect the evolutionary development of plants in terms of their environmental needs. Needless to say, humans have biological interests, too. Proceeding from biological facts to moral consideration does require further normative work. Hunger, for example, is not of any moral relevance because of its contributions to species-typical functioning, but of its effect on well-being. It is simply unclear whether a plant is harmed by cutting its life short or causing a disease. We still have to take non-sentient individuals into consideration here, but the reasons for doing so may well be of an indirect nature. These individuals do not clearly hold interests that demand any direct moral consideration (DeGrazia 1996; cf. Goodpaster 1978).

Sentience presents us with a compelling criterion as to moral status. Firstly, it explains the moral status of non-autonomous humans without the need to refer to any future capacities or species-membership, both of which prove to be problematic. Secondly, it provides a straightforward explanation of the moral wrongness of inflicting animal cruelty (DeGrazia 1996). These two considerations combined establish a basis for regarding sentience at least to be a sufficient criterion as to moral status, hereby entailing that humans owe animals direct moral consideration. What does this imply? What should the contents of our moral deliberations be when taking these considerations into account? These questions necessitate a further

²⁹ The existence and extent of moral obligation is of course a matter of ethical theory rather than the mere recognition of moral status.

³⁰ See e.g., Baxter (2004) and Taylor (2011) for a defence of this position.

³¹ It may be noted here that Varner (1998) applies the term: biological interests.

discussion on that which makes an animal's life good. In other words, what lies in the interest of animals?

It has been proposed that the interests of humankind categorically differ from animal interests. Raymond G. Frey (1980) holds the view that interests require desires, which animals lack as they do not possess the capacity to think in concepts as we humans do. Animals behave in certain ways which seemingly involve desires for instance when chasing after a ball in the park. Nevertheless, dogs have no linguistic capacities and thus lack the ability to acquire beliefs and concepts. Canine behavior is not aimed at goals that could be articulated in language. According to Frey, language and the way it structures thinking distinguishes animals from us humans to the effect that only we pursue interests that demand moral consideration. Perhaps Frey employs an overly rational idea of interest. David DeGrazia (1996: 4) challenges Frey's view as follows: "It is hard to believe that kicking a cat does not harm her – causing her to suffer – and that doing so is not contrary to her interests". In other words, it is obviously implausible to require that the cat needs to be aware of the fact it is in pain rather than the direct experience of suffering pain. In fact, the dog might very well enjoy running after a ball without being reflectively aware it is playing.

So, despite the lack of human language and concepts, a number of animals appear to behave with intention. Based on certain beliefs, they act with expectation regarding the outcome (Thomas, 2016). Research suggests that, for example, chimpanzees are able to intentionally deceive conspecifics (De Waal 2005; Crockford et al. 2015). The discovery of tool-use by chimpanzees as another example of intentional behavior entails a significant challenge to human exceptionality, as this phenomenon was considered a unique human trait. The fact it has been witnessed in non-primate species, e.g., corvids, as well (Weir et al. 2002), further challenges the divide between humans and other animals.

R.G. Frey, on the one hand, adopts an overly demanding view of interests, rendering it so as to prevent humans who lack language and concepts to immediately fall beyond the scope of moral consideration. In some regards resembling mammals also without such cognitive capacities, these humans obviously have interests, such as pertaining to avoiding suffering, which demands moral consideration. On the other hand, Frey underestimates animals when he merely notices their lack of human language and concepts, without paying any due attention to their abilities as to intentional action. Although almost all animals lack human language,

specific research findings suggest a significant ability as to the intentional behavior encountered among various animal species.

How are we to understand interests? Being of a prudential value, they pick out those factors that will cause the life of an individual to go well. Interests are good for the individual herself (Cochrane 2012: 658; DeGrazia 1996; Raz 1986; Feinberg 1974). Before investigating any prudential values in more detail, it is worthwhile to look into a distinction made between preference-interests and welfare-interests (Regan 2004: 87-88). Preference-interests need not be in the interest of the individual who pursues them. One could display for example a strong interest in copious consumption of alcoholic beverages, but this may not serve one's interest. Welfare-interests encompass a broader conception of interests reaching beyond the immediate experience or temporary desires of the individual (DeGrazia 1996: 39). In other words, it tracks what is in the interest of individuals rather than what they happen to take an interest in. These interests are central in determining that which morality demands when dealing with animals. Sentience provides us with a threshold level for moral consideration of one's interests without immediately informing us what these interests entail.³² Whereas numerous animal ethicists and political theorists agree upon sentience being a threshold for moral consideration, this consensus is also the starting point for dissension regarding the good life of animals. Who is to say what lies in the interest of animals?

2.2 Perspectives on well-being

To what extent do animals have interests as to the avoidance of suffering, a continued life and/or functioning in accordance with species-typical norms or freedom? What contributes to a good animal life? This brings us to interspecific value theory. The viewpoints on what comprises well-being proposed within this specific field of philosophy involve three main contenders: (a) mental statism, (b) desire or preference-satisfaction and (c) the objective-list account of well-being (Parfit 1984; DeGrazia 1996). As to mental statism (a), the mental state theory of prudential value limits well-being not only to the presence of positive mental states, but also to the absence of negative mental states. In its most basic version i.e., hedonism, it involves maximizing pleasure over pain. This version can be broadened to include favorable subjective experiences (e.g., happiness, contentment, tranquility, equanimity) as well as the

³² Nussbaum and Singer, for example, both agree on sentience being a threshold condition for moral consideration whereby they disagree upon welfare interests. Nussbaum's conception of well-being, however, involves flourishing, whereas Singer advocates welfarism.

absence of suffering (Sumner 1996). Where mental statism is limited to the mental states of individuals, desire or preference-satisfaction (b) covers the satisfaction of preferences rather than the mental states of individuals, hereby reaching beyond the mental states of individuals because preferences may be satisfied without being noticed. Objective-list accounts of well-being (c) attempt to define well-being in a more objective manner. Rather than suggesting subjective foundations (e.g., positive mental states or preference satisfaction to a certain degree), this perspective introduces the need for an objective account of goods that make up a good life.

These perspectives on welfare-interests are normative in the sense that they presuppose a theory of value (DeGrazia 1996). Moreover, they converge on numerous issues, including the importance of experiential welfare and thus the interests in avoiding suffering (Horta 2013b). Relevant differences nevertheless add contrast between the three perspectives. For an objective list devotee welfare-interests may indicate all kinds of species-typical functioning which not necessarily impinge either positively or negatively on the experiential well-being of individuals. For a mental statist proponent, preference-interests and welfare-interests will not diverge significantly, as a result of the supreme value accorded to experiential welfare (DeGrazia 1996: 39). Species-typical functioning will only be relevant to such an account if its absence causes either suffering or frustration and if its presence creates happiness.

Such accounts are not without difficulties. The libertarian American philosopher Robert Nozick (1938-2002) challenged the mental state account of well-being by means of a thought-experiment. Arguing that mental statism cannot explain an intuition triggered by the so-called Experience Machine argument, Nozick invites us to imagine an individual being connected to a device that alters the mind significantly to the effect that he or she experiences a total and surreal, but importantly, highly satisfying lifeworld. Many will argue that even if people are having great fun while being attached to this machine, they are not faring well and even misled as to the true nature of reality. However, as mental statism is limited to subjective experience only, it cannot substantiate this intuition. Whether or not one is being deceived, satisfying experience is all that matters. A possible way to address this could perhaps

comprise accepting a Reality Requirement (Griffin 1986; Sumner 1996). A second means to this goal would be to accept the counter-intuitive implications.³³

Perhaps well-being concerns desires we humans cherish, one of which is the heart-felt wish to not be deceived and to live our lives in an undistorted reality. This yearning leads us to a preference-desire satisfaction understanding of well-being i.e., the second view on prudential value. Preferences may also be easier to measure than mental states, as individuals could indeed disclose their preferences by means of their behavior (Crisp 2001). However, this theory is vulnerable to several objections. The first hereof is aimed at the problem of preferences we may satisfy without becoming aware of this. For example: “Suppose that I meet a stranger on a train. She describes her life’s ambitions, and the hopes and fears with which she views her chances of success. By the end of the journey, my sympathy is aroused, and I strongly want this stranger to succeed. I have this strong desire even though I know that we shall never meet again (Parfit 1984: 151). If this stranger succeeds in life, an outcome we will never find out, how can this be relevant to one’s individual well-being? The thought-experiment employed by Parfit highlights the intuition that well-being, in terms of preferences, becomes significant to the extent that they affect our experience. One may respond to this objection by installing an Experience Requirement (Sumner 1996). The issue that matters is the “felt satisfaction” of preference (DeGrazia 1996: 225). If we accept this additional filter to serve the meaningful kind of preference satisfactions, subsequently for animals, the differences between a theory of preference-satisfaction and a mental-statist theory are not that substantial, because animals appear to not hold the type of preferences that can be satisfied without being felt (Palmer 2010: 133). Animals do not wish something to occur in the future to the benefit of other beings e.g., pursue the desire that a stranger with whom you have spoken only briefly succeeds in life without this event ever affecting your own experience.

A second challenge to preference-satisfaction relates to experience in another way whereby individuals may have acquired preferences by living in sub-optimal conditions. This prompts the question whether satisfaction of such adaptive preferences indicates any genuine well-being. Preferences of an individual may to a certain degree be misguided. For instance,

³³ Departing from an experiential account of well-being, Palmer (2010: 133) opines that the Experience Machine objection is not problematic for animals as they do not possess the conceptual ability for distinguishing between reality and virtual reality.

imagine an individual who is perfectly happy in the sense that all his or her preferences are satisfied but who is a nonetheless enslaved. Examples such as the “happy slave” have led a preference-satisfaction theorist to demand that the preferences held are informed in terms of the relevant facts (Crisp 2001). If animals can be enlightened as to the relevant facts pertaining to the world, ultimately the “informed” requirement will distinguish the mental-state from the theories on preference-satisfaction. The appropriate question is now perhaps: Which preferences must an individual hold?

Instead of understanding well-being either in terms of mental states or in the satisfaction of preferences, one could perhaps be inclined to establish a comprehensive list of factors which create a good life. Even if a situation gives rise to any negative mental states or does not satisfy the preferences one holds, the state of affairs may still be considered exemplary of well-being. For example, it has been noted that animals need to (be able to) engage in certain species-typical behaviors in order to flourish, thereby exemplifying their telos, thus bringing out the “the pigness of the pig, the dogness of the dog” (Rollin 1995: 159). This telos not only guides our attention to the relevance of the evolutionary history of an animal but also focuses on how interests could follow from its nature: “social animals need to be with others of their kind; animals built to run need to run” (Rollin 1995: 159). A list of ten capabilities has been proposed in order to capture adequate levels for animals to flourish in accordance with their own species and dignity, ranging from between life and to play, and having control over one’s environment (Nussbaum 2006). Both telos and capabilities provide a broad account of well-being, hereby reaching beyond mental states or the preferences animals may opt for. Such a view not only enables the possibility for well-being to either increase or decrease independent of the impact on experiential welfare but also facilitates that any negative and positive mental states need not affect well-being.

However, natural behavior often contributes to the experiential welfare of animals (Cochrane 2009). The actual ability of social animals to move around and to engage in social interaction for example contributes significantly to their experiential welfare. Confinement may negatively affect the well-being and lifespan of animals, for instance, by hindering social interaction, keeping them from physical exercise as well as overall inducing boredom, frustration and ill health. Impeding social animals in their interaction with conspecifics or other animals induces frustration, thus decreasing experiential welfare. The same may apply to animals that are “born to run” but are kept in close quarters. The emphasis on species-

typical flourishing could very well boil down to safeguarding and promoting the experiential welfare of animals. Therefore, preference interests and welfare interests may indeed largely converge (DeGrazia 1996). In the case they do not close in, accounts of objective lists face a challenge in explaining and justifying the reason why certain goods are of interest to individuals even if not affecting subjective experience. This phenomenon is especially problematic if pertaining to perfectionist theories, which steer furthest away from an Experience Requirement. Several objective list theories opt for a more flexible or hybrid approach in order to avoid the question-begging aspect of an objective list, by including only goods which are generally considered conducive to experiential welfare (DeGrazia 1996; Haybron 2011).³⁴ Moreover, the inclusion of autonomy and enjoyment in an account of an objective list could not only help to provide room for individuality but also to challenge other items listed here, narrowing the gap between objectivist and subjectivist theories of well-being (DeGrazia 1996: 217).

In sum, none of the three theories pertaining to well-being is without its problems. Regarding animals, on the one side, a subjectivist account (including mental states and/or preferences) has been advocated because any additional concerns are believed to involve non-prudential values e.g., aesthetic values or other human opinions on how animals should behave (Musschenga 2002). All that matters to an animal is what he/she, as an individual, experiences and prefers (Kasperbauer 2012). On the other side, objectivist theories reject the reduction of any well-being either to a positive experience or to preference-satisfaction irrespective of circumstances and opportunities (Nussbaum 2006). The question if there is perhaps a way to do justice to both the experiential and objectivist inclinations brings us to the relevance of agency.

2.3 Why we need to take agency seriously

An experiential account of well-being is commonplace in animal ethics (Palmer 2010; Cochrane 2012; Garner 2013; Singer 1990). While humans themselves can challenge the items included in an account of an objective list, animals lack this ability. This observation renders such an account to be perhaps more controversial for animals, especially if goods are demanded that do not contribute to the animal's experience. I assume that an experiential account of well-being is indeed plausible for animals. Well-being comprises experiences,

³⁴ The gap between subjective and objective theories of well-being are hereby narrowed down. As to the remaining differences a "virtual tie" between the two approaches may exist, see DeGrazia 1996: 226.

including mental states and the felt satisfaction of preferences. However, this conclusion need not necessarily entail a reduction to the binary pair of pain and pleasure. In actual fact, an experience account rather entails that well-being involves all those factors which positively impinge on one's subjective view on the world, which may include a broader spectrum of happiness including joy, contentment, equanimity, confidence, affiliation, acquiring insight, etc. (Crisp 2001).

Well-being also involves flourishing. Whereby an element of living up to one's potential captures the nature of well-being, this primarily resonates in objectivist theories. However, flourishing could also make sense within a subjectivist understanding of well-being. Rather than complying with objective standards, flourishing involves endorsement by the subject as much as possible. One can only present a complete account of subjective well-being if the individual is provided with sufficient opportunities to determine his or her own good, with the caveat that individuals are able to make such an assessment (Sumner, 1996). Well-being is both experiential and subjective with the additional requirement being: the individual is correct in feeling satisfied about his or her existence. To a certain degree, this requirement resembles the demand that preferences have to be informed. Hinging on the capacity of autonomy, however, the addition includes more: "If a subject's endorsement of some particular (perceived) condition depends on a factual mistake, or results from illusion or deception, then it is not an accurate reflection of her own underlying values. And if those values have been engineered or manipulated by others then they are not truly hers" (Sumner 1996: 174). Sumner thus provides a subjective account of well-being i.e., happiness which calls for an autonomous endorsement. In this manner, he seeks to tackle the above-mentioned objections to subjective accounts of well-being (Haybron 2011). His strategy disarms both the Experience Machine (see the mental-state theory) as well as the happy slave objection (see the theory of preference-satisfaction), as autonomous individuals will not endorse such situations upon reflection. As the autonomous individual knows best, the need for objective reference points also evaporates.

How does this subjective perspective on flourishing translate to animals? Does it improve upon the experiential accounts of well-being central to many recent works on animal ethics? This subjective account agrees with their experiential understanding of animal well-being but adds to this the individual's endorsement of her own happiness. However, whereas this possibly provides us with a plausible account of well-being for humans, the majority of

animals lacks autonomy. While humans may be capable, considering their autonomy, to assess and endorse their personal lives as a whole, animals cannot. As Wayne Sumner (1996: 145-6) puts it, “(c)learly this sort of prudential stocktaking is possible only for creatures capable of asserting their lives as wholes either at a time or over an extended period of time”. The happiness of adult autonomous humans includes both cognitive and affective aspects, whereas non-autonomous humans and animals only possess the latter. This entails that

the minimal wherewithal for having a welfare is being a subject who is capable of being satisfied or unsatisfied by the conditions of one’s life. In the case of paradigm human subjects with complex cognitive capacities, more is necessary as well: their judgments about the quality of their lives must be authentic. Where these more sophisticated skills are absent, the *sine qua non* is the base-line ability to experience one’s life, in the living of it, as agreeable or disagreeable. (Sumner 1996:178)

Thus, animals do have welfare, a term defined in terms of agreeable experiences largely irrespective from context. Is this a plausible interspecific perspective on well-being? Those with autonomy are able to endorse their life as a whole, whereas the well-being of non-autonomous beings is defined by means of agreeable, pleasurable experiences. Doubt concerning the adequacy of this view has been expressed tentatively by Sumner himself (1996: 178), after which the animal question is no longer pursued.

The three main responses to Sumner’s view on animal happiness concern:

(a) taking issue with the claim that all animals (excluding humans) lack autonomy. The cognitive capacities of great apes and cetaceans have led certain scholars to report that these creatures could be autonomous much like adult humans (Cochrane 2009; Andrews 2014; Thomas 2016; Beauchamp & Wobber 2014). Thanks to training, a number of great apes are able to communicate by means of sign language not only with humans but also among each other (Singer 1993; Savage-Rumbaugh et al. 2007), hereby reflecting a high level of mental complexity. These animals may thus perhaps be able to endorse their lives much like autonomous humans would. However, whereas language does not appear relevant with regard to interests if we recall the discussion on Frey’s account of interests, it might very well be of great importance to autonomy. Considering that sign language-trained great apes present us with a plausible case for the existence of autonomy in non-human animals, this “indicates the

question of whether autonomy is possible without language” (DeGrazia 1996: 209).

Therefore, while several species of animals might possess the cognitive capacity necessary for acquiring some level of competency with human language including second-order reflections, and consequently achieve autonomy, this is something that the large majority of animals lack. At least for less cognitively complex animals, the case for autonomy appears far-fetched.

(b) alternatively, that if we assume animals lacking autonomy, animal well-being is not merely reduced to enjoying pleasurable experiences.³⁵ Taking Sumner’s view on welfare as a starting point in order to develop a subjective understanding of animal well-being, it is argued that only after providing animals with sufficient opportunities, similar to assessing the well-being of children, are we able to deliver a genuine evaluation of animal well-being (Haynes 2008). As Richard Haynes (2008: 125) invites us to wonder: “How can we be assured that a particular environment is one in which, while the animals in it seem satisfied with their opportunities, this satisfaction is the result of their own conditioning or ignorance of what is possible”. This observation illustrates the need for not only assessing well-being over time but also in the light of adaptive processes. Well-being involves more than just the momentous presence of pleasurable experiences. While positive experiences are key, taking note of them at one point in time does indeed appear to be incomplete.

Where Sumner remains in doubt as to the authenticity requirement and its implications for animals, Haynes does not consider the lack of autonomy a reason for reducing animal welfare to the presence of agreeable experiences. If the individual is unable to judge whether it is justifiably satisfied, Haynes suggests by proxy assessment will do. The question now arises: which standard should we apply in such assessments? Does this ultimately result in an objective understanding of well-being? Interestingly, Haynes refers to the aforementioned capabilities approach developed by Nussbaum, which lists several goods that together comprise a minimal flourishing life. In doing so, he distinguishes between items that are generally of prudential value and a theory of well-being.³⁶ The difference becomes noticeable

³⁵ Haynes (2008: 120) disagrees with Nordenfelt, a Swedish philosopher working on concepts of health and welfare, who in his publication of 2006 entitled *Animal and Human Health and Welfare: a comparative philosophical analysis* opts for a preference-theory of happiness. Haynes argues that such a view causes animal welfare to be too contingent and is determined by the situation, whereas Nordenfelt does not impose either a standard or threshold for well-being. If there is only relative happiness, one might argue that, as long as animals are either not frustrated or suffer, their well-being is fine.

³⁶ Haynes (2008: Introduction XV) follows Sumner’s example when stating that ‘Sumner has no objections to what Parfit [...] calls an “objectivist list” theory as long as it is understood to be a list of things that are standardly taken to contribute to or are sources of human well-being, and not a theory of well-being’.

when the importance of species-typical behavior is considered. Agreeing that numerous capabilities provide us with a list of those items that are generally of prudential value, Haynes takes issue with Nussbaum's adherence to the species-norm when defining the term "flourishing", an issue that, as the former reports "strikes me as problematic, for it assumes that animal wards should associate primarily with their own kind and not with other species, including humans" (Haynes 2008: 124). Haynes thus shares with Nussbaum the criticism of preference-satisfaction views but disagrees on the question: which kind of opportunities should be open to the individual animal?³⁷

(c) a third response which closely resembles (b) but entails more attention to be paid to the agency of animals and their ability to make meaningful choices. Sumner tentatively holds that animal welfare can be defined in terms of having "agreeable experiences". Agreeable means "quite enjoyable and pleasurable; pleasant" and/or "willing to agree to something".³⁸ While Sumner opts for the first reading, by doing so he deflects attention from the other possibility. While Haynes gravitates towards the second reading, he defers to by proxy assessment, instead of fully investigating the capacities and willingness of animals to agree; to endorse. It has also been suggested that "animals may well have an interest in autonomy if the latter is largely a matter of having, acquiring, and acting upon desires which are truly their own" (Milligan 2015: 13).³⁹ On this reading, animals can be autonomous in part because of modifying the definition of autonomy. Can the concept of autonomy survive such pulling in another direction, away from the second-order reflection that characterizes human adult reasoning? Like DeGrazia, I beg to differ. Such an understanding of autonomy "appears to make autonomous action almost the same as intentional action, suggesting a failure to capture the degree of critical reflection and decision making embedded in the concept of autonomy" (DeGrazia 1996: 207). Comprehension of the ways external or internal mechanisms interfere with our personal thoughts and actions is critical to the concept of autonomy.⁴⁰ This is not to say that authors who attempt to attune this concept to animals are totally mistaken, because intentional action does matter. However, it should not lead us to redefine autonomy but instead lead us to taking agency more seriously. These authors and their preoccupation with autonomy may point towards agency and not autonomy as being the relevant concept. One

³⁷ For similar remarks, see Kasperbauer 2012 and Donaldson & Kymlicka 2011.

³⁸ <https://en.oxforddictionaries.com/definition/agreeable> [accessed 17 October 2018].

³⁹ See also Gruen 2011, Beauchamp & Wobber 2014 and Thomas 2016.

⁴⁰ Whether or not we are indeed truly autonomous is another issue which does not need not bog us down now.

might argue that although animals lack autonomy, they do have cognitive capacities relevant to determining their subjective good, such as agency. Perhaps well-being should include the endorsement of animals in terms of agency.

What does agency involve? In general terms, it involves the ability of individuals to act with a specific aim or goal in mind (Thomas 2016; Donaldson & Kymlicka 2016b). Do animals display such competency? It has been advocated (Wynne 2005) that ascribing human-like intentionality to animals involves anthropomorphism: “the attribution of human characteristics or behaviour to a god, animal, or object”.⁴¹ The ethologist-*cum*-primateologist Frans de Waal has been criticized for introducing overt anthropomorphism into his work, for example in how he describes the behavior of chimpanzees in terms of political action, and thus as human-analogue social behavior.

Those scholars who forward objections against De Waal’s descriptions, however, should provide a compelling answer which distinguishes humans from animals when dealing with their behavior. Moreover, De Waal argues, it is precisely the continuity between species and their traits that questions the claim that only human behavior can be explained by means of intentional terms. Instead of characteristics being either present or not, they exist in different degrees in different species. De Waal therefore argues, for agency and even levels of moral agency in non-human animals. An intentional stance which explains behavior in terms of intentional terms towards animals often provides a plausible explanation of their behavior; a method to avoid the scientific error of overt anthropomorphism (De Waal 2005; Thomas 2016).

To counterweigh the objection of anthropomorphism, De Waal coins the term “anthropodenial”. This process involves the unjustified denial of intentionality when describing animal behavior, as De Waal (1997: 51) mentions: “a blindness to the humanlike characteristics of other animals, or the animal-like characteristics of ourselves”. Just as it would be wrong to uncritically ascribe human traits to animals, one should take intentionality seriously wherever one finds it, thus irrespective of species membership. This procedure of employing an intentional stance allows scientific scrutiny to avoid anthropomorphism. Scientific research into the cognitive capacities of various animals supports the claim they

⁴¹ <https://en.oxforddictionaries.com/definition/anthropomorphism> [accessed 2 January 2019].

lead rich mental lives, involving beliefs, desires, a certain degree of self-awareness, and memories.⁴²

Following the naturalistic line of argument De Waal himself follows, it is plausible to argue that agency is more gradually present in the animal kingdom than autonomy. This assessment entails not only that a larger number of creatures possess agency, but also that that certain animals possess more of it than others. Whereas dogs, for example, are not autonomous in the sense as discussed above, they display significant levels of agency, as do human children. As Thomas notes: “The intellectually disabled and small children are examples of humans whose ability to reason is diminished, and yet we would still treat them and view them as agents, capable of directing their own behaviours and actions. In a similar way, animals can be more or less rational” (Thomas 2016: 17).

The importance of animal agency has been underlined, defining it in terms of “self-willed or initiated action which carries an expectation of efficacy” (Donaldson & Kymlicka 2016d: 179). In doing so, Donaldson and Kymlicka criticize conceptions of agency which are merely set up in order to include “adult rational humans” by pointing out recent developments and innovative manners of reflecting upon the subjective good of people with cognitive disabilities. Indeed, many of these insights can also inform our thoughts on animal agency.

What would it entail if we were to take animal agency seriously within the above-mentioned subjective account of well-being? As to thoughts on agency, it has been noted that one can distinguish between (a) micro-agency which involves “day-to-day choices within a pre-defined way of life”, and (b) macro-agency which enables “animals to explore different possible ways of life” (Donaldson & Kymlicka 2016c: 57). It is perfectly possible to develop a subjective account of well-being that takes these types of agency seriously. This possibility is hinted at – but not further explored – when they argue that “many animals have an interest in macro agency, and not just well-being defined as preference satisfaction or species-typical functioning (Donaldson & Kymlicka 2016b: 236). This interest in macro-agency could be an important part of a subjective understanding of well-being as developed in the present chapter. If animals are given the chance to explore and communicate their preferred way of

⁴² It is unclear whether pigs and dogs recognize themselves in mirrors. Great apes, cetaceans and various corvids do pass this self-awareness test, see Marino & Colvin 2015.

life by means of micro- and macro-agency, their choices may reflect justified satisfaction, an endorsement of their lives.

Empowering animal choice with regards to their subjective good contrasts with the objective-list conception of well-being. Donaldson and Kymlicka argue against falling back on objective list conceptions of well-being pertaining to individuals based on the argument that those individuals are not able to communicate their subjective states and desires as adult humans can. They identify this move in the work of the American philosopher Martha Nussbaum:

Recall that the original challenge raised by Nussbaum was that there are serious epistemic barriers in interpreting the subjective good of people who are not linguistic agents, and that where these barriers exist, we should rely instead on objective measures of the good life and on species-typical norms, rather than engage in the speculative and potentially self-serving task of trying to understand the subjectivity of these individuals. (Donaldson & Kymlicka 2016d: 191)

Donaldson and Kymlicka state that such an approach could seriously underestimate the ability of non-autonomous beings to communicate their subjective states and desires if given sufficient opportunity. Furthermore, Nussbaum possibly introduces assumptions pertaining to the flourishing of animals that steer towards essentialism, a potential bad thing if it goes against the interests of individual animals. Kasperbauer (2012: 995) goes as far as to claim that “any theory rooted in species norms or related concepts is doomed to fail” not least of all because “animals living outside of their natural habitat will form unique sets of preferences, requiring an individualized assessment of wants and needs”. Species-typical behaviors are contingent indications of well-being and can be replaced by careful attention for the subjective experience of animals (Kasperbauer 2012). Such an individual and contextualized approach to well-being may lead to surprising results. Certain behaviors or capacities that are non-species specific may well be beneficial. The benefits can be either direct (e.g., the thrills of playing a computer game or enjoying interaction with humans) or instrumental, when language enables individuals to communicate their wishes in great detail (Savage-Rumbaugh et al. 2007).

How do we establish a preferred way of life without falling foul to speculation and the self-serving conclusions ushering Nussbaum to opt for objective measures? Donaldson and Kymlicka (2016d) advocate the importance of varied perspectives on the subjective goods of animals which together provide a useful patchwork of knowledge. They distinguish expert, folk, and personal knowledge whereby

(a) expert knowledge involves the accumulated body of knowledge derived from various scientific disciplines engaged with the well-being of animals as well as ethology and animal welfare science in general, although much of the latter appears to be largely framed in terms of human interests (Haynes 2008; Donaldson & Kymlicka 2016a). This bias is problematic as it fails to present us with a scholarly account of the interests of animals themselves, especially considering that human interests may conflict with those of animals.

(b) folk knowledge emerges out of spending time with animals gradually building up a “frame of reference” pertaining to the behaviors of animals of a certain species (such as dogs, or even more specific, dogs of a certain breed). Such frames are not fine-tuned at an individual level.

(c) one develops personal knowledge regarding the individual preferences and behaviors of animals when taking care of animals in the role of a guardian. The singular experience could help track aspects of the individual good omitted from expert and folk knowledge, both of which are bound by all kinds of generalizations.⁴³ Together, these three sources of knowledge may contribute to sketch the contours of the subjective goods of non-autonomous individuals without the need to rely on an objective list account of well-being.

Agency provides animals with the capacity to make meaningful, individual choices concerning their subjective good. Well-being is not only restricted to any positive subjective experience witnessed at a given time, but also relates to how a subject has arrived at that experience. Whether or not animals have been presented with the chance to sufficiently employ their agency over time in order to determine their own subjective good should become a central question when evaluating well-being. Promoting micro- and especially macro-agency can reveal by means of individual endorsement the well-being of non-autonomous agents

⁴³ Individual differences may of course also be studied from an expert perspective, see Ohl & Putman 2014.

A subjective understanding of animal well-being now outlined, the next task implies specifying the range of welfare interests which animals may hold. I will now discuss the following three basic interests: (a) the avoidance of suffering, (b) a continued life and (c) the freedom of opportunity to then assess the extent to which cognitive capacities, such as great apes display, are relevant to these interests.

2.4 What is in the interests of animals?

Whereas determining animal interests will inevitably trigger disagreement, for instance, concerning the range of welfare-interests, certain interests nonetheless appear to be quite evident. The avoidance of suffering is probably the least controversial interest of animals. Sentient beings in general share a strong interest in avoiding any suffering.

Species typical capacities can affect the ways one may suffer. Whereas adult humans may experience guilt and impending future punishment delivered by a deity, other animals with less rational capacities will not be able to endure such a kind of suffering (DeGrazia 2014). However, breaking a bone will induce pain in rational humans and dogs in relatively similar ways. For, they are all sentient beings and therefore feel and subjectively experience what happens to them (Cochrane 2012). This cross-species comparison also reveals the particular moral relevance of rational capacity with regard to suffering. Allowing for certain forms of suffering which beings with a lower rational capacity cannot experience, any less complicated instances of suffering (such as fracturing a bone) are experienced as unpleasant irrespective of one's cognitive complexity. Rationalizing the situation by anticipating adequate analgesia and medical treatment, hopefully resulting in good chances of a swift, full recovery may indeed even soften the blow and somewhat alleviate one's suffering. This mental ability of rationalization is unavailable to less cognitive complex sentient beings, which may thus suffer more from similar physical impairments (Singer 2011).

While the interest in avoiding suffering is compelling for sentient beings, the interest in a continued life of animals may prove less indisputable. It is intuitively noted, for example, that (painless) death harms persons more than it does animals (DeGrazia 2016a). Can this assessment be explained in terms of differences in interests? Do animals indeed take less interest in continued life? The existence as well as the strength of such an interest can be determined in various manners. For example, the harm of death may follow from the way it thwarts desires. We must then ascertain if animals pursue any desires that extend beyond their

immediate experience which can entail (a) the desire to go on living, (b) having several long-term desires that together impose a sufficient interest in continued life, (c) a present desire which satisfaction extends somewhat into the future (such as eating), and (d) resistance to death (Palmer 2010: 131). It remains unclear whether any animals in addition to humans pursue the specific desire to go on living, or (with the exception of specific highly intelligent animals) pursue sufficient desires which include mental time travel into the future. The same applies to young children and people with cognitive disabilities. Moreover, it is unlikely that the aforementioned (c) and (d) reflect a genuine desire as to a continued life (Palmer 2010: 132).

A desire-based account overlooks the arguable moral importance of any future goods of individuals regardless of their present set of desires and/or preferences. Painless death, as is suggested, continues to inflict harm because individuals are robbed from the opportunity to experience well-being from the present until the inevitable natural conclusion to their life. The infliction of suffering can harm animals as can missing out on valuable opportunities; they are deprived of their future goods, harmed by death. Imagine a healthy puppy, blessed with the prospects of an enjoyable life. It does not appear farfetched, intuitively, to claim that painless death harms the puppy (DeGrazia 2016a).

Does the harm done to the puppy equal the harm involved in the death of a healthy adult? One can attempt to argue that humans lead more valuable lives. If the goods humans lose are of more value than the goods of animals, death subsequently imposes a more significant harm to humans. However, it is not clear that animals have less to lose from a premature painless death based on their interests. DeGrazia identifies two possible strategies for distinguishing between the interests of humans and animals, which both fail to deliver him a satisfying answer. One could start from an experiential account of welfare-interests to then argue that the human experience is superior. Or, even add that resulting from a longer lifespan, humans are presented with more opportunities to achieve well-being. However, it is not clear whether a canine's enjoyment of subjective goods ranks lower than the way humans enjoy their goods. An inclination to rank the latter goods higher may result from human bias, as the satisfaction extracted from these different goods should be evaluated from a subjective viewpoint; satisfaction matters because someone enjoys it. As DeGrazia puts it himself, "there is no reason to believe that the subjective quality of life of a dog who is faring well is lower than

that of a person who is faring well” (DeGrazia 2016a: 3). A retreat to the argument of a longer lifespan does not appear all that convincing.

Does an objective account of prudential value explain the supposed differences in harm between human and animal death? Is the ability of humans to enjoy music, engage in conversation, love others, gather knowledge etc., qualitatively of greater value than everything animal well-being comprises? The first thing to observe here is: humans lack many capacities other animals have. As is observed, “it would be erroneous to assume that persons’ lives contain all the valuable features of dogs’ lives (e.g., certain sorts of enjoyment) plus some that are especially valuable (e.g., highly intellectual achievements). Dogs’ lives contain many sensory riches that our lives lack” (DeGrazia 2016a: 3). It further remains unclear, as DeGrazia points out, if observed from an objective list theory human well-being proves superior.

Therefore, quantitative explanations within an experiential notion of well-being as well as qualitative explanations within an objective notion of well-being fail to deliver a sound explanation regarding the differences pertaining to the harm of death. Perhaps our intuitions on this issue are mistaken.

Jeff McMahan (2002) proposes another possibility which is gaining traction among moral and political philosophers (Cochrane 2007; Palmer 2010; DeGrazia 2016a; Ladwig 2015). Rather than merely looking at an individual’s future goods, he suggests we should also take into account “the extent to which the individual at the time of death would have been psychologically connected to himself at those times in the future when the good things in his life would have occurred” (McMahan 2016: 70). On his time-relative interest account, a weak psychological connection between individuals and their future self does discount the harm of death. In his view, such discounting explains the intuition that discontinued life imposes more harm to a 20-year-old human compared to a fetus at the very onset of a pregnancy, whereas the harm would be equal for both a 20-year-old and a 40-year-old individual.

One may reject this intuition and argue that (a) the harm of death is about the total of future goods lost or that (b) death does not harm the individual. Let us now look into the implications of these other viewpoints for the claim that death harms humans more. Starting with (a), if we assume that future goods cannot be discounted assessing the harm of death,

consequently the intuition that death harms a person more cannot be substantiated: if one cannot discount any future goods by reference to the psychological unity, then this provides us with even stronger grounds to warrant the protection of interests of animals in a continued life, just as it would reject abortion as a result of the future goods being available to fetuses (McMahan 2016). Similarly, there is no dividing line between humans and animals with regard to the harm of death if death imposes no harm whatsoever to the individual itself. So, if we assume that death harms a person more, the time-relative account provides a plausible explanation of differentiating between the interests in continued life of humans and animals.

Discounting the harm of death by means of the level of psychological unity also implies that interests in continued life can differ between animals e.g., chickens and great apes. The latter creatures will reveal rather robust interests in continued life, whereas death will be significantly less harmful to a chicken. Although a sound reason is still required, when cutting a chicken's life short, death harms adult humans and other great apes more.

Do animals take an interest in freedom? Based on the preceding account, animal well-being involves the ability of individuals to explore and determine their preferred way of life, but this does not necessarily include an interest in freedom, as one may argue that any interest in freedom follows from the capacity of autonomy. Whenever humans are not (fully) autonomous, their freedom may be restricted in various ways. For, at this very moment, they do not take an intrinsic interest in freedom as such. Their interests in freedom at such an instance are instrumental, in the sense that restrictions of movement may cause suffering or frustration.⁴⁴ In fact, the impact on experiential welfare of restricting freedom provides us with a strong reason to not capture animals living in the wild, as they could suffer hugely in the process as well as its subsequent confinement (Cooke 2017).

In general, a certain level of paternalism is apparently acceptable when dealing with non-autonomous individuals. However, as is argued above, the absence of autonomy may be perfectly compatible with the presence of (a degree of) agency. And, even if the individuals lack autonomy, the acknowledgement of agency pushes back against an overly paternalistic attitude by uncovering ways in which individuals can make meaningful choices regarding

⁴⁴ For a lengthy defence of this claim, see Cochrane 2009.

their own life.⁴⁵ Because agency is associated with cognitive capacities, certain animals are more capable of making such choices than others which entails that the interests taken in freedom and in functionings may differ as to the strength observed between animals.

Acknowledging agency not necessarily involves a hands-off approach, as one may provide conditions in which individuals can employ their agency. Indeed, animals living amongst humans encounter many ways in which they depend on human assistance as to realize a life in accordance with being justifiably satisfied. Training can provide a means for individuals to explore and develop their potential. This activity should, however, fall in line with the interests of the animals themselves as individuals, not merely the outcome of species-specifics or human interests. As such, an animal's interest in freedom is very much entangled with his/her interests in functionings. One of the most important issues pertaining to animal ethics is, as Kasperbauer (2012: 989) suggests, "what range of behaviors we think animals should express, given that we can control the environmental conditions for their expression". In line with the above discussion, an assessment of well-being has to pay attention to the opportunities presented to individual animals in order to deliver a complete evaluation.

We are faced with an epistemic challenge – different from the one raised in chapter 1 – to uncover what really is in the interest of animals, in order to establish which environmental conditions would be favorable. Testing their preferences is one way of executing this procedure, although it should be carried out in recognition of its shortcomings. As scholars engaged in the concept of animal welfare have discussed, preference testing is vulnerable to the effect of adaptive preferences (Fraser et al. 1997; Haynes 2008). By now, it should not come as a surprise that settling for relative happiness misses the mark. A great deal depends on the amount of effort and time spent in discovering the interests of animals, a procedure comparable in many ways to the assessment of the well-being of children. When one refrains from providing a range of opportunities where these are feasible and reasonable, it is inadequate to ascertain well-being because it is incomplete. Based on these interests and their level of agency, great apes have a moral right to freedom of opportunity, as will become apparent throughout chapter 3.

⁴⁵ Donaldson and Kymlicka argue that animals also have autonomy. However, this capacity is not necessary because agency also provides a sufficient proviso. Moreover, the controversial understanding of autonomy involved here may push the conceptual boundaries too far, see Cooke 2017.

2.5 Concluding remarks

Sentient animals and their interests demand direct moral consideration. This stipulation requires an understanding of animal well-being: what specifically is in the interests of individual sentient animals? Starting from a subjective rather than an objective account of well-being, I advocate the importance of agency as a means for individual animals to determine their own subjective good. This view is based on the theory of well-being as presented by the Canadian philosopher Wayne Sumner, which involves the autonomous endorsement of one's life. My opinion deviates from Sumner's viewpoint in understanding "agreeable" in terms of active endorsement rather than mere passive enjoyment. Agency, in addition to autonomy, provides the ability to engage in endorsement. Whereas the majority or perhaps even all non-human animals lack autonomy, agency is present at various levels in different animal species to a degree that animals can be considered agents in a relevant sense. If compared to other experiential accounts of animal well-being, the account developed in this chapter differs in its emphasis on subjective endorsement of a way of life given a range of opportunities. In chapter 3, I will discuss how this relates specifically to recent interest-based theories of rights that do not acknowledge a right to liberty.

While sentience provides a threshold capacity for moral consideration and rather readily gives rise to the interests in the avoidance of suffering, psychological unity and agency are plausible factors that determine the strength of the interests in respectively continued life and freedom. This evaluation entails that great apes have strong interests in the avoidance of suffering as well as in continued life. Moreover, acknowledging their agency should lead us to recognize their interests in freedom of opportunity.

3. How interests generate moral rights

Starting from interests, moral theory plays an important role in further determining our obligations towards animals. In section 3.1, I will point out the differences between a will-based and an interest-based account of rights to then argue in favor of the latter. My argument can be read as a consistent extrapolation of an interest-based approach to human moral rights. If one accepts that interests do much of the justificatory work with regard to moral rights for humans, it may consequently be presumed that animals have certain rights as well. This conclusion falls in line with the theory presented by the political theorist Alasdair Cochrane which is discussed in 3.1.2. Fully agreeing with the plausibility of a *prima facie* moral right not to be made to suffer and a right to life, I also endorse the claim that the lack of autonomy entails a lack of an intrinsic interest in liberty. However, following from the understanding of well-being developed in chapter 1, animals should acquire sufficient opportunities to explore and develop possible lives available to them. Although animals have no intrinsic interest in liberty due to a lack of autonomy, their interest in freedom of opportunity does challenge the restriction of freedom. The reason for this is not because any restriction of freedom impinges negatively on their experiential welfare but because they are withheld not only the opportunity to experience a greater level of freedom but also to take decisions at the level of macro-agency. It is up to the individual animal, if this decision-taking falls within her/his range of capacities, to decide on the level of freedom. On this account, freedom of opportunity is an aspect of well-being, which differs from inviolable liberty rights resulting from autonomy. The implications of acknowledging the interest in freedom of opportunity are nonetheless rather considerable. In the chapter 4, I will bring this account to bear on the issue whether animals could have a right to health.

3.1 An interest-based theory of moral rights

Considering the conception of well-being as outlined in chapter 1, what does this further entail in terms of obligations towards animals? An answer to this question demands an ethical theory. A conception of well-being presents us with an idea about what matters to individuals, not precisely what others should do in terms of moral obligation.

Let us set off from the assumption that humans have moral rights, as discussed in chapter 1. How does this affect our moral obligations to animals? In order to address this question, we must take a closer look at the nature of human moral rights. Which philosophical foundation

has been provided to support the claim of human rights? And, how does this affect the extent to which animals have similar entitlements? The distinction between will-based and interest-based understandings of moral rights provides a good place to start addressing these issues.

Rights comprise a significant moral protection of individuals. Accounts of moral rights generally invoke a Hohfeldian understanding of rights in reference to the legal scholar Wesley N. Hohfeld (1879-1918), whereby claim-rights involve a demand on others in terms of corresponding duties. Such duties may require non-interference on the account of the duty bearer, for example by not damaging or stealing someone's property. It may also call for efforts to ensure that the right-holder can enjoy his or her rights, which applies in the case of the right to education. In all these instances, the rights of individuals correspond to the duties of others. Moreover, these duties can either be claimed or waived by the right-holders.

Philosophers and legal scholars disagree on what it takes to hold any rights. One side of the discourse that pertains to the interest-based theory of rights having interests provides a plausible underpinning for moral rights. It is argued that "X has a right if X can have rights, and, other things being equal, an aspect of X's well-being (his interest) is a sufficient reason for holding some other person(s) to be under a duty" (Raz 1986: 166). On the interest-based account, interests present a necessary condition for being a right-holder. Only beings with interests can possess moral rights. However, if rights were to protect all conceivable interests, this outcome would shake up our concept of what we could reasonably expect from each other. My trivial interest may need significant efforts from others, a requirement many would judge an unreasonable demand (Cochrane 2012). Proponents of an interest-based theory of rights therefore understand interests as a necessary but not sufficient condition for rights. The latter applies if interests are important enough. Whether an interest deserves any protection by rights depends on its significance and should be of sufficient importance in order to hold others under a duty.

On the other side of this debate, the will or choice theory of rights prefers the capacity of autonomous choice above interests to ground rights. One does not view relevant interests as a necessary and/or sufficient condition for rights. Instead, this viewpoint holds that rights presuppose the ability of individuals to either claim or waive one's right. Several groups (e.g., children, mentally incapacitated, future generations) as well as animals are left unfit to bear any rights (Feinberg 1974). While beings lacking any form of autonomy are not excluded

from moral consideration, moral rights on such an account require by definition the capacity to either claim or waive one's rights.

Proponents of a will-based approach to rights are consequently presented with a bullet to bite. Do humans without the capacity to make any autonomous choices really miss out on moral rights? Critics will quickly point out, as Joel Feinberg (1974) has done, that whereas a number of humans cannot claim their own rights, others can represent them to then claim their rights by proxy. If one believes that humans who lack the ability to make an autonomous choice still possess certain rights, this could perhaps indicate that autonomy provides us with a sufficient but not necessary condition to hold rights; not all rights-holders are autonomous agents. Autonomy may well be associated with certain specific rights without excluding the possibility of rights grounded on something else. Could interests perhaps create a sufficient condition for rights as well? If one understands rights as the robust protection of individuals against trade-offs, then it remains unclear why this should involve autonomous agency. Maybe the protection against trade-offs captures the nature of a moral right? Whether a moral right tracks the interests of autonomous agents specifically appears a less defining trait of what creates a moral right. Feinberg questions the need for any second-order reflection in order to take the interests of non-autonomous beings into account. The protect-worthiness of those interests rather than an ability to reflect on them executes the justificatory work related to moral rights.

Another reason for favoring an interest-based account of moral rights is: it delivers a better justification of certain rights held by autonomous beings e.g., the human right directed against torture. The will-based theory of rights will explain how torture severely restricts the autonomous agency of individuals by violating one's psychological and physical integrity (Griffin 1986). Needless to say, any abuse is also precisely reprehensible for how it feels, thus not only pertaining to how it affects one's autonomous agency. Interest-based theorists emphasize this aspect, pushing it forward as being worthy of rights protection. An interest-based account "provides a more natural and secure style of justification for paradigmatic human rights, one that is both less counter-intuitively circuitous and less of a hostage to contingencies ... the right not to be tortured can be interpreted as resting directly, in key part, on the victim's interest in avoiding severe pain" (Tasioulas 2014: 663). Interests may well explain why non-autonomous humans too have the right not to be tortured. Whereas the restriction of autonomous agency is indeed a severe harm, it does not appear to forward a

complete explanation of why one should be protected against torture in the first place. Needless to say, on a will-based theory of rights, one's interests in avoiding any infliction of severe suffering by others could also be explained in terms of one's interests. If one recognizes the importance of the interests of autonomous agents not to suffer severely as a result of how it feels, why should we then not acknowledge these interests of non-autonomous beings as possible grounds for the protection of rights?

Based on the above-mentioned considerations, the interest-based theory of rights provides us with a plausible approach to moral rights. It is not my aim to present the complete defense of either an interest-based approach in itself or in comparison with a will-based theory. Rather, the aim is to explore the implications following from an interests-based theory, in particular with regard to great apes. Even if we agree upon this assumption, plenty of philosophical labor still lies ahead of us, as a commitment to an interest-based theory of rights does not come with either a well-defined set of rights or with an agreement among theorists of animal rights. Disagreement on the extent of moral rights follows from the specification and comparison of interests rather than from the interest-based theory of rights itself. The rather general depiction which Raz (1988) delivered pertaining to an interest-based theory of rights may lead to various accounts of rights whereby a great deal depends on the reasons one forwards in order to explain the sufficiency of particular interests to warrant protection by rights. In 3.2 (see below), I will discuss how one sets off from interests to arrive at moral rights by taking a closer look at Alasdair Cochrane's theory, which is one of the first fully articulated versions of an interest-based theory of animal rights.

3.2 From interests to rights

In his recent publication (2012) entitled *Animal Rights Without Liberation: Applied Ethics and Human Obligations*, Cochrane has developed an interest-based theory of animal rights. Its central premise can be traced back to Feinberg's (1974) well-known defense whereby animals are considered as possible rights holders based on their interests, which falls in line with the Razian conception of interest-based rights as discussed above. In that sense, while inspired by Singer's utilitarian defense of animal welfare (indebted, in turn, to Bentham), the emphasis lies on sentience and interests in understanding our moral obligations towards animals while at the same time fitting into a framework of moral rights. In the process, Cochrane provides us with an alternative understanding of moral rights countering Tom Regan (whose philosophy aligns with Immanuel Kant's) who based his account of moral right

on the respect for the inherent value of animals (Regan 2004). Rather than relying on the concept of inherent value, as Regan does, Cochrane opts for the moral leverage of interests. Moreover, rather than utilitarianism, the framework Singer prefers, Cochrane pursues moral rights instead. The theoretical discussion has for a long time mainly revolved around the opposition of respectively Singer's utilitarianism and Regan's moral rights. Cochrane uncovers the fruitful ground positioned between these points of view.

Interests thus now take center stage. Interests have been understood in the sense that "if something is in my interests, the satisfaction of it will make my life better, while the frustration of it will make my life worse" (Cochrane 2007: 296). As components of well-being, interests involve prudential value; it "concerns how life goes for the individual whose life it is" (Cochrane 2007: 296). This observation does not imply that whatever one prefers at a given time reflects one's interests. It may be added here that Cochrane remarks that individuals may be wrong about what lies in their interest, for example, when they wish to injure themselves.

Considering this theoretical framework, the question arises: which interests ground a right? As discussed earlier, not all interests do so. Only sufficiently important interests are able to generate moral rights. One may commence by looking closer at the practice of human rights which may provide us with a moral baseline for animal rights founded on the interests humans and animals share.⁴⁶ The right not to be tortured appears to fit the bill concerning such an account, as the interests between humans and animals with regard to this right reveal a considerable overlap. However, one could object that this observation makes the case for animal rights being contingent on human rights without providing a basis for such rights to begin with. The issue of justification would then be sidestepped, because it relies on the justifications of those rights rather than providing a justification itself.

It is suggested that moral rights will be carved out in the light of "competing interests and their strengths, as well as the burdens on the potential duty-bearers" (Cochrane 2012: 42). Such a proposal implies at a minimum that, in order to provide for the interest of others, individuals need not seriously compromise their own interests; the burden should be reasonable. What does this entail? It could be postulated that granting animals rights based on

⁴⁶ See also Berkey 2017.

their interests, for example the right to life, would demand too much of humans, especially because animals can serve human purposes (Cochrane 2007). Nevertheless, while the infringement of animal interests to further human interests forms a central aspect of numerous human societies, it is often not necessary. In other words, there is no frequent need to compromise any basic human interests in order to protect the basic interest of animals. Thus, at one point in time, survival would imply the killing of animals. At present, however, alternative food sources are available to large groups of people. The availability of alternatives does not immediately provide animals with the right to life but does challenge the thought that putting an end to slaughtering animals for food would overburden the possible duty holder (Donaldson & Kymlicka 2011).

By and large, however, the existence and extent of duties are in the eye of the beholder. Libertarian versions, limiting rights and obligations to the bare minimum, as well as full-fledged cosmopolitan accounts could exist, hereby imposing an array of positive obligations on duty-holders. Criteria such as necessity and assuming the burden placed upon duty holders to be reasonable does help but nevertheless leaves ample room for a different account of an interest-based theory of rights. I will return to this quandary below.

First, if one succeeds in providing plausible grounds for generating moral rights, as Cochrane reflects on, what will happen if the rights of different individuals conflict? How does this affect the translation of interests into rights? The ubiquitous limit to resources renders conflict inevitable. This fact touches upon the nature of rights. If rights impose demands that cannot be trumped by means of other interests or considerations, how should we deal with any conflicts of rights? Does the idea of moral rights result in an inevitable, permanent stalemate?

This issue could be dealt with by distinguishing between abstract or *prima facie* rights on the one hand and concrete rights on the other, where “*prima facie* rights are not ‘all things considered’ rights, but rights that are established via a more general judgment about whether an interest is sufficient to impose a duty on another ... [they] can meaningfully conflict and will inevitably conflict” (Cochrane 2012: 45). Access to healthcare serves as an example to further support his newly acquired viewpoint. All kinds of individuals may hold the abstract right to have access to health care based on the general judgment on the importance of having such access and the demand placed upon duty holders. However, because distributive issues are inevitable, further specification as well as an evaluation of the interests involved is called

for. Contextual considerations thus determine if one also holds a concrete right to receiving health care. As suffering from minor ailments would require high costs to resolve at the expense of making treatment available to those affected by more serious diseases, one could argue that members of both groups hold a *prima facie* right to health care, whereby only the latter can benefit from a concrete right in this specific situation. Recognizing concrete rights thus largely depends on contextual consideration.⁴⁷

With the distinction of *prima facie* and concrete rights, let us now return to the issue raised above with regard to what specifically generates moral rights and its accompanying duties. How do I understand the basis of these rights in this thesis? On an account of justice, including Cochrane's, one generally starts from the self-interests or goods of the beneficiaries of justice. Individuals are in competition with each other to secure their own projects and interests in life against the background of scarce resources. We need distributive justice and the framework of rights in order to make sure everyone gets what they deserve. Anything above that requirement is voluntary and not subject to the scope of justice. In the end, also on Cochrane's account, rights are intimately tied to self-interest, leaving it vulnerable to libertarians who do not feel that they should hold any substantial duties so as to safeguard the right to health of others.

We need not follow this path. Instead,

The construction of an edifice of rights can ... be seen, as [David] Hume saw it, as a device for extending the reach of natural compassion and for securing the goods that compassion enables to all persons in a society. For, he saw, compassion is a natural endowment of the human being, present in each of us as the innate attitude toward those close to us—those for whom we care and those who care for us. (Garfield 2001: 199)

Hence, rather than taking competing self-interests in the public domain as starting point, we could start from the natural capacity to care for those near and dear and extend the reach of our compassion beyond the confines of our private lives. As Jay Garfield highlights in

⁴⁷ One might object that this remark perhaps steers too much towards a consequentialist rather than a rights-based view. Does the weighing of interests render Cochrane's account to now be consequentialist? This issue will be dealt with in the discussion on the animal right not to be made to suffer (see 3.3).

contrast to, for example, Buddhist Philosophy, not many have taken this route when dealing with the history of Western Philosophy, of which David Hume (1711-1776), Arthur Schopenhauer (1788-1860) and more recently, ethics of care theorists such the developmental psychologist Carol Gilligan and the feminist philosopher Josephine Donovan are prominent exceptions.⁴⁸ A certain degree of affiliation exists with utilitarianism. For, a compassionate outlook devalues suffering just as much wherever it is found, cutting across the contingent borders of membership of species, nation, generation, etc. Unlike utilitarianism, however, compassion involves affective engagement with the suffering of others, culminating in the personal “wish for others to be free from suffering” (Goodman 2010). Intention matters, keeping at bay any utilitarian inclinations, such as aggregation of welfare and preoccupation with consequences (Fink 2013).

Amidst the vibrant complexity of daily life, acting with compassion is hard. If we find ourselves in a more reflective mood, perhaps it is not so difficult to endorse human rights as an ideal. Perhaps this is why we should see *prima facie* rights as generated out of compassion, providing the incentive to act with compassion whenever we have to determine the demands of concrete rights of others in real life. So, in response to the libertarian, Cochrane could refer to human’s natural endowment of compassion for those near and dear, and the way in which rights secure interests that many would emphatically endorse on an abstract level. The normative force of such a response is derived from questioning the moral relevance of who suffers. As Garfield (2001: 199) puts it,

in short, others' rights generate claims on us not because of the brute fact of rights-possession, but rather because of the brute fact that those others are seen *not* to be *other*, but rather as *our own*. And hence they have a claim on our feeling. Rights are on this account not insignificant: they have a central moral role in gaining recognition, in giving specificity to claims for action, and even as tools against those who withhold recognition. But without a foundation in the compassion that recognition facilitates, rights become pointless.

Instead of being something beyond the demands of justice, compassion provides a bedrock for developing moral rights, especially when understood along the lines of an interests-based

⁴⁸ Notably both Hume and Schopenhauer support rights generated from compassion, whereas ethics of care ethicists in general are more wary of the rights-discourse because of its associations with patriarchal reasoning.

theory. Moreover, rights facilitate compassionate action when we take prima facie rights as compassionate ideals, as a reminder when determining concrete rights that “those others are *seen* not to be *other*, but rather as *our own*” (Garfield 2001: 199).

With this elaboration on the question of how interests generate rights, let us recap Cochrane’s account of moral rights. Central to his theory is the claim that sentient beings have interests, rendering them eligible to hold moral rights. It is *an interest-based theory of moral rights*. Interests that suffice to impose duties upon others are plausible grounds for rights protection. These interests in turn give rise to abstract or prima facie rights. Depending on contextual considerations (including demands of feasibility) these rights can translate into concrete rights.

3.3 The moral right not to be made to suffer

Which kinds of interests are worthy of rights protection in Cochrane’s view? One of the most basic interests of a sentient being comprises an interest in avoiding suffering. This interest is comparable across species to the degree that individuals are sentient. Cognitive capacities (e.g., rationality) cannot discount the interests of less cognitive complex animals whenever the subjective experience of suffering is relevantly similar as with the example of a dog breaking a bone. Cochrane (2012: 55) argues that cognitive capacities may be relevant in the sense that they either make it better or worse for the individual who suffers. Cognitive capacities could enable certain future-oriented concerns, for example, when an athlete is injured just before an important event. He or she may suffer additionally from the prospect of being unable to perform in the near future. Conversely, the ability to reflect on one’s first-order thought may also provide comfort. The athlete can anticipate pain relief, whereas the dog is unable to think such mitigating thoughts. Thus, with regard to suffering, although one’s cognitive capacities play a role, at the most basic level, sentience provides individuals with the ability to suffer. Cochrane opines that sentience and its associated vulnerability provides a strong case for a prima facie moral right not to undergo any suffering brought on by others.

If humans, regardless of their cognitive capacities, possess the prima facie moral right not to be made to suffer, then the same reasoning applies to animals as well. Cochrane’s argumentation hinges on the “argument from marginal cases which involves a comparative argument that takes moral obligations towards people with cognitive disabilities or young

children as a reference point for moral obligations towards animals.”⁴⁹ In doing so this argument points out the inconsistencies in the treatment of beings with relevantly similar capacities. Recalling Singer’s criticism of speciesism, it remains unclear how species-membership in itself can be of any direct moral relevance with regard to interests such as the avoidance of suffering. An unequal consideration of similar interests would therefore be unjustified.

What does such emphasis placed on sentience entail for practices which impose a level of suffering on animals? To what extent does the specification of rights when viewed in the light of contextual considerations allow for such harm? As Cochrane points out, “one cannot justify painful experimentation on animals solely by appealing to its contribution to medical progress. Human experiments are normally morally unjustifiable because human beings have rights not to be subjected to painful and invasive procedures” (Cochrane 2007: 301). Thus, whereas the *prima facie* right not to be made to suffer requires further specification in order to arrive at a concrete right, even if the stakes are high and it is assumed that animal experiments contribute to human interests,⁵⁰ the fact that humans and animals share the relevant interests is sufficient to uphold a concrete right for both.

As to the importance of sentience in explaining the interests in avoiding suffering, I consider this argument to be compelling, especially if one assumes that humans hold the moral right not to be made to suffer irrespective of their cognitive capacities. This assumption I share. Matters may differ when pertaining to the interests in continued life. It is frequently opined that death harms humans more than it does animals (DeGrazia 2016a). To what extent do animals hold a right to life based on their interests in continued life?

3.4 The moral right to life

As discussed in chapter 2, animals do indeed have interests in continued life. Relevant differences have been noted between individuals: animals with a high psychological unity are more harmed by death than creatures with less psychological unity. The value of future goods

⁴⁹ The argument of marginal cases is controversial. It has recently been described as the argument from species overlap (Horta 2014), which among other things removes any demeaning associations such as seeing humans that diverge from normal adult functioning as “marginal”. For, this “perpetuates a deeply problematic conception of neurotypical human cognition as defining the core of moral status, and treats other forms of subjectivity as somehow deficient bases of moral status” (Donaldson & Kymlicka 2016d: 87).

⁵⁰ For an in-depth discussion on the purported benefits of animal research, see 1.4.

is discounted in the light of the psychological unity overtime. Do these interests ground a right to life? Cochrane opines they do. His point of view is based on similar reasoning when compared to the right not to be made to suffer. Not all humans have acquired high levels of psychological unity over time. Despite lacking a robust ability to entertain future-oriented thoughts, an interest in continued life, irrespective of the extent to which the individual is aware of these goods in the future, securely buttress a right to life. The time-relative interests account carves out a position between desire-satisfaction and a whole-lifetime account by combining the strong points of both. It is aptly remarked that:

The desire-satisfaction view is correct that caring about or appreciating (and therefore desiring) one's future is relevant to the harm of death, but incorrect that one who does not appreciate or desire one's future loses nothing from having that future snatched away. The whole-lifetime approach is correct that appreciating one's own future is not necessary for having a stake in that future, but incorrect in thinking that such appreciation is irrelevant to the magnitude of the harm of death. (DeGrazia 2007: 67)

On this viewpoint, the future goods of non-autonomous beings are discounted in the light of psychological unity, but not to the extent they become worthless. Whether or not the value of future goods is sufficient to uphold the protection of rights should be the next consideration. Do all humans have sufficiently strong interests to ground a right to life? If the time-relative interests account is accepted as a justification for establishing a human right to life, then this should also apply to non-human and non-autonomous beings. As with the right not to be made to suffer, if one rejects speciesism, the interests involved should subsequently be weighed irrespective of species membership. This outcome implies that if the interests of humans with weak psychological unity suffice to buttress a right to life, the interests of animals with comparable psychological unity overtime should suffice, too (Cochrane 2012).

The normative strength of the right to life may differ across individuals. The interests of beings with high psychological unity overtime (e.g., great apes) will generate stronger rights than creatures with less psychological unity. Still, "birds do have at least a *prima facie* right to life. That right to life may be weaker than that possessed by more cognitively complex creatures, and so more easily overridden in certain circumstances, but that does not mean that the right itself should not be recognized" (Cochrane 2016: 206). This statement prompts the question as to which circumstances allow for the interests in continued life to be overridden.

If we would wish to kill the bird to eat it, it remains doubtful whether the reasons for doing so are strong enough indeed. In other words, it is not unreasonable, one could argue, for the interests in continued life to impose a duty upon others not to kill for food. The interest is sufficient to acknowledge a concrete right to life in this situation.

However, although alternatives pertaining to animal protein diets may exist, other ways of animal use appear to be more necessary: “we might claim that while the interest is sufficient to ground a general or *prima facie* animal right to life, this right is not supported in the context of medical experiments on animals” (Cochrane 2007: 309). Again, in response to this postulation, Cochrane develops his argumentation in the light of the argument of species overlap. If all humans hold a right not to be killed in experimentation, then animals with relevantly similar capacities and interests should have the same right. If we do not deem it acceptable to perform research on non-autonomous humans for reason of their interests in continued life, comparable interests encountered in non-human and non-autonomous beings should consequently also receive the kind of protection moral rights provide. The abstract and *prima facie* moral right to life is cashed out in terms of concrete rights for animals by means of a reference to the concrete rights of humans.

The comparative argument is put forward in order to justify not only the right not to be made to suffer but also a right to life. I assume both the methodology and the rights resulting from this line of reasoning to be plausible. In 3.5 (see below) I will focus on my disagreement with Cochrane’s theory, which pertains to the interests of animals living in freedom and whether this stance translates into animal liberation.

3.5 The moral right to freedom of opportunity

Whether animals possess the kind of interests in liberty to establish a right is as yet hotly debated among animal rights-based theorists (Cochrane 2009; Milligan 2015; Garner 2011; Giroux 2016) of which Cochrane has put the fox in the henhouse by arguing for animal rights without liberation. Theorists (Francione 2000; Regan 2004) have debated in favor of animal liberation, which involves animal rights including the right to be free from human domination. Based on such a view, animal use should be abolished, and animals set free. According to Cochrane, however, animals lack the required interests in bringing animal use to a conclusion and then demand liberation. Cochran arrives at this viewpoint by means of distinguishing between intrinsic and instrumental interests in liberty.

On an instrumental account, liberty only matters with regard to the way it contributes to other values e.g., pleasure. Opining this to be a misapprehension of the true nature of liberty, Cochrane illustrates his point by referring to the 1998 comedy/drama entitled *The Truman Show*, in which the protagonist's life is scripted and filmed for television without him being aware of this. Truman Burbank is forced to live a life without having the genuine ability to alter its course. Although he enjoys his life, its true nature hugely deceives him. To a certain degree, Truman is a "happy slave" who undergoes a rather strong restriction of autonomous agency without any negative consequences in terms of the levels of pleasure experienced in life. Therefore, pleasure in itself cannot explain Truman's interest in liberty. Another reason why liberty matters must exist. Cochrane states that an explanation of the importance of liberty in terms of preference-satisfaction also fails. A slave, for example, may have the desire not to be liberated from his or her master. If one assumes that enslavement irrespective of conditions violates the human interest in liberty, the preference-satisfaction view in itself fails to explain the reason why.

On what grounds now do humans have an intrinsic interest in liberty? It is claimed that for individuals such as Truman Burbank, it is in the "individuals' interests to have the freedom to frame, revise and pursue their own ends because they are autonomous agents" (Cochrane 2009: 666). An intrinsic interest in liberty is the outcome of one's capacity for autonomous agency. Therefore if, and only if, a being is autonomous, he or she has an intrinsic interest in liberty.

Perhaps autonomy need not imply an intrinsic interest in liberty. The instrumental accounts of liberty as discussed above could be amended in order to address their inability to explain the importance of liberty. Certain theorists have included autonomous endorsement as a condition for genuine well-being. Cochrane refers, among others, to the theory proposed by Sumner (see also chapter 2) in which "humans have an interest in liberty only in so far as liberty promotes the pleasure of a self-governing subject" (Cochrane 2009: 665).

The problem with such an approach, according to Cochrane, lies in the fact it ultimately presupposes the intrinsic interest in liberty without providing any justification. The intrinsic importance of liberty sneaks into Sumner's account as it merely acknowledges happiness when endorsed by a self-governing subject. In this way, "the relevant intrinsic good is no longer mere pleasure or mere preference satisfaction; instead, liberty itself is recognised to be

of intrinsic value. In other words, these accounts only become plausible when they are altered to acknowledge the central importance of liberty itself for the lives of human beings” (Cochrane 2009: 665).

Does Sumner indeed presuppose an intrinsic interest in liberty? Both Cochrane and Sumner do indeed underline the importance of autonomy in their theories. The former does so in order to claim the intrinsic value of liberty without much further argumentation. The capacity for autonomy entails an intrinsic interest in liberty. Sumner, however, aims to account for autonomy in developing his subjective account of well-being. The nature of well-being involves self-assessment to be carried out by the subject, and Sumner takes autonomy as the capacity required in order to execute such a self-assessment.

In Sumner’s opinion, liberty is important to the extent that it contributes to and enriches one’s life. In this manner, any interest in liberty becomes instrumental; the intrinsic interest in liberty that Cochrane purports evaporates. Sumner does recognize autonomy as vitally important, but only for the way it enriches one’s life; not to put forward an intrinsic interest in liberty. If liberty does not enrich one’s life, it has no value, which prompts the following argumentation:

I can find no ethical value in promoting achievement or knowledge or liberty, or any personal good, if no one at all will be better off for it: neither the person whose good it is nor anyone else. To my mind, the value of these states of affairs is adequately captured by the role they play in enriching our lives; there is no remainder which requires independent acknowledgment beyond this prudential payoff. (Sumner 1996: 202)

Being free from enslavement is important because it contributes to one’s own happiness. Freedom makes one better off. Understanding the restrictions that enslavement imposes, virtually all humans would opt for freedom for reasons of well-being. An intrinsic interest in liberty does not appear necessary. Autonomy is important because it enables a subject to choose the most satisfying life. In the end, its value is instrumental to the intrinsic value of well-being. It therefore remains unclear whether an intrinsic interest in liberty indeed follows from autonomy. Perhaps all interests in liberty are instrumental rather than intrinsic.

Either way, even if all interests in liberty were instrumental, as on Sumner's reading, the supposed lack of animal autonomy appears most relevant. The right to liberty may be denied when based on the dearth of autonomy, implying that non-autonomous beings i.e., those without "the capacity to frame, revise and pursue one's own conception of the good" (Cochrane 2009: 665) also lack the kind of interests that would grant them a right to liberty.

All interests of non-autonomous beings in liberty are hereby not rejected. Restricting freedom of movement may lead to frustration and suffering, causing animals to have an interest in freedom at least to the extent that it is associated with the absence of negative experiences. However, if freedom indeed boils down to avoidance of negative experiences, it also appears to follow that one may restrict the freedom of animals in order to benefit others, too, as long as it does not induce any suffering and frustration. This is how Cochrane arrives at an interest-based approach of animal rights without the need for liberating animals, as they do not have interests in freedom as such.

Cochrane (2009) considers the following two challenges aimed at the pivotal role of autonomy to grant liberty rights to animals:

(a) the natural functionings argument, which Cochrane identifies in the accounts presented by Nussbaum (2006) and Taylor (2011). This line of thought or argument sets off from a broad conception of welfare-interests and fits into a teleological approach that could be traced back to the Greek philosopher Aristotle (384-322 BCE). On Nussbaum's account, animals (and on Taylor's account, all living beings) need to pursue their species-specific objectives, which could include freedom and does in fact amount to an objective list account of well-being. Nevertheless, when arguing from an experientialist account of well-being, as Cochrane does, it is unclear how these ends are morally relevant if they do not enter or affect the experiential well-being of the individual animal. The reason why animals should behave in accordance with how their conspecifics behave in nature remains open to question. Of course, severely restricting the freedom of movement of for example migratory animals may cause suffering and frustration, but should animals engage in species-typical ways when their inability to do so would not involve any negative experiences?

(b) an approach which takes issue with the notion of autonomy at play. As discussed in chapter 2, it has been postulated that many animals do possess a trait resembling autonomy. It

is argued that animals display preference-autonomy in the sense that “they have preferences and have the ability to initiate action with a view to satisfying them” (Regan,2004: 84-85).

Does the recognition of preference-autonomy then provide us with any grounds to recognize an animal’s right to liberty after all? Cochrane opines this is not the case because he rejects that preference-autonomy overlaps sufficiently with autonomy. No second-order reflection is involved here, merely volition. Preference-autonomy stretches the concept of autonomy too far, as it lacks a central aspect that accords autonomy with its particular relevance in political theory and moral philosophy (DeGrazia 1996). Cochrane proposes for the sake of the argument to presume that a broader conception of autonomy would be appropriate. Even then, if animals have preference-autonomy, this does not substantiate an intrinsic interest in liberty. He also suggests to, “consider, for example, an animal in a well-run wildlife park, who has all of his desires for food, company, stimulation, sex, and the like all satisfied” (Cochrane 2012: 76). This observation indicates that preference autonomy alone does not imply liberation, because it requires a satisfaction of the preferences. Most animals⁵¹ do not have either the preference or the intrinsic interests to be free in the sense that autonomous persons do. Thus, they do not have a right to liberty.

Is Cochrane correct in reporting that individual animals lack the ability to meaningfully opt for their own way of life? Are they in some relevant manner able to take such a decision? He argues that “sentient animals can make choices and act on those choices, but that is something quite different. Without the capacity to reflect on their choices, or on the reasons for their choices, animals are locked into their ends and goals in a way that most human adults are not” (Cochrane 2012: 73). Animals can therefore not rise above the immediate experience of the world around them in order to then make a major choice in how to lead their lives and give shape to what it means to live a good life. However, as argued above (see chapter 2), animals can take consequential decisions as to their subjective good on both a micro- and a macro level. Does this faculty not also create a significant instrumental interest in liberty? Moreover, how does this relate to the other instrumental interests of animals in liberty which Cochrane acknowledges?

⁵¹ For the argument that, for example, great apes and cetaceans may be autonomous in the required sense and that we should take a precautionary approach, see Cochrane 2012:12.

A significant gap between autonomy and preference-autonomy concepts remains. Personal cognitive capacities, in particular autonomy, are relevant in the way they enable individuals to make important choices regarding their subjective good. The capacity for autonomy opens up specific opportunities in order to reflect upon the course of one's life to the level that one, upon autonomous reflection, is truly satisfied with one's life, whereby each and every interest in liberty is satisfied. However, the significance of autonomy should not disregard the capacities of non-human animals to take meaningful decisions concerning their lives. Regan has a point when suggesting that autonomy modeled on adult human beings is not all there is in relation to freedom. Indeed, his understanding of preference-autonomy appears similar in relevant ways to that which has been described as agency in chapter 2. The ability of an animal to make meaningful choices and determine its subjective good may prove to be relevant to the issue of freedom.

Returning to Regan's discourse, we can apparently trace both micro- and macro agency back to preference-autonomy. Regan discusses two examples in which preference-autonomy is at work. In the first case, animals can take consequential decisions when familiar with the available options. Fido the dog may opt to run off instead of eating its food. This event largely falls within the scope of micro-agency: individuals make a choice within a predefined way of life. Regan argues that animals can also make meaningful choices when confronted with unfamiliar situations. Given the choice between its food or something new, to wit, interacting with an unfamiliar animal, Fido may go for the latter. This outcome may lie within the scope of macro-agency, which involves a choice regarding one's preferred way of life (if given an option) rather than a choice falling within a predefined way of life. This is merely a single instance of such a situation. A far greater involvement is encountered at the level of macro-agency. For example, determining how a new situation should be presented may take a little extra effort. Should more choices simply be made available for the individual to choose? Or, must various novel situations be tailored towards the individual's capacities and previous experiences as part of a process of training and familiarization (Haynes 2008; Donaldson & Kymlicka 2016d)? For, "one can easily imagine circumstances in which exposure to "alternatives", if presented in a void, would be a recipe for paralysis or anguish, not agency" (Donaldson & Kymlicka 2016d: 185). Especially at the level of macro-agency, one should enable the individual to, as much as reasonably possible, consequentially explore alternate ways of life, a process which involves more than merely offering alternatives. While Cochrane (2012: 73) states that "animals are locked into their ends and goals in a way that

most human adults are not”, he fails to consider the ways in which humans can unlock the potential of animals.

The interests of animals extend beyond the preferences expressed at a certain point in time. It does not suffice to claim that all interests in liberty are covered when each and every preference an animal happens to display are satisfied. We must also carefully look into how creatures end up with these specific preferences in order to then provide individual animals with opportunities to not only explore but also develop their own possibilities in line with their agential abilities. The instrumental interests in freedom may turn out to include freedom of opportunity.

Such a perspective dovetails with recent viewpoints on the subjective good of humans who do not possess full autonomy, such as those with cognitive disabilities and children up to a certain age. It has been indicated that concepts on citizenship for the two latter groups have evolved from “paternalistic protection from harms and provision for objectively-defined basic needs” (Donaldson & Kymlicka 2016d: 168) to exploring ways of enabling agency as much as possible.⁵² Going beyond satisfying any preferences individuals happen to have is implied here, because these preferences could have been the outcome of sub-optimal conditions. With regard to children, “paternalistic restrictions on freedom can lead to self-fulfilling prophecies, in which children lack opportunities to develop skills and competence, which becomes justification for the restriction” (Donaldson & Kymlicka 2016d: 182). The range of opportunities available to individuals hugely shapes their preferences. Donaldson and Kymlicka then transpose this way of thinking onto animals. For example, if one provides them with the option to decide on the terms of companionship, a number of critters may opt to spend more time with humans whereas others may choose for more independence. Humans greatly affect the ability of animals to make meaningful decisions, as

the potential scope for agency depends on engaging DAs [domesticated animals] as presumptive agents under less and less restrictive (but carefully scaffolded) conditions. The range of relevant options will vary for different species and breeds ... and the resulting choices will also vary with individual personality ... This process will inevitably involve a lot of trial by error and adjustment, but insofar as DAs can

⁵² Though I do not argue that animals require citizenship, this debate does present us with an interesting starting point to then reflect upon the subjective good of not fully autonomous beings.

explore meaningful options concerning the fundamental shape of their lives, it is tyranny to deny them opportunities to do so. (Donaldson & Kymlicka 2016d: 184)

Matters differ on Cochrane's account, whereby the prevention of suffering and frustration appears key. To him, it remains unclear to which degree humans have a moral obligation to offer animals the opportunity to broaden and explore their own preferences. This is a remarkable conclusion if one compares this with the way we look at moral obligations vis-à-vis non-autonomous humans. Cochrane draws this comparison continuously when establishing the plausibility of (a) the right not to be made to suffer and (b) the right to life. Granting non-autonomous humans the right not to be made to suffer and the right to life, Cochrane's theory denies them the right to liberty (Garner 2011; Giroux 2016). We are hereby invited to further investigate the right to liberty in the light of our obligations towards non-autonomous humans. Which moral obligations must we comply with in the case of humans who are not autonomous? How do these commitments affect our obligations towards animals? As Donaldson and Kymlicka have suggested, we perhaps need to consider non-autonomous individuals as presumptive agents to next provide them with a reasonable range of opportunities, whereby their interests are reflected in the process. The question now rises: under which conditions can animals take meaningful decisions?

Donaldson and Kymlicka inform their position by means of taking note of the developments regarding the subjective goods of people with cognitive disabilities and children. Based on this point of view, they endorse the concept of a "scaffolded choice" whereby certain background conditions need to be in place in order to enable macro-agency. Choices do not happen in a vacuum but presuppose the ability of individuals to choose. Indeed, animals lack the ability to reflect on their choices like humans. However, we could facilitate animals in various ways rendering their choices meaningful.

What does the term "scaffolded choice" entail according to Donaldson and Kymlicka? A first aspect of this type of scaffolding comprises basic socialization. Returning to Fido, this process involves, for example, when still a puppy (thus susceptible to socialization) to become familiar with humans, animals, and specific contexts which are/might be part of his social life. This process could further include a basic training which strongly resembles the commitments parents make when educating their children. This phenomenon involves paying attention to the context of future lives of youngsters and will include a number of standard

elements. Maternal deprivation, for example, can result in harmful consequences for individual animals later in life.⁵³

Developing and maintaining a stable social identity form a second aspect of a “scaffolded choice”. Here the fact is emphasized that individuals are unique and entitled to their own personality. At the same time the need of social individuals to be part of a particular community is highlighted. Individuals should be permitted to live the life which is truly theirs (i.e., not entirely determined by any references to species-typical behavior or by human interests).⁵⁴ In addition, they should be allowed to do so in a social context which retains its integrity over time. Here families are the first type of communities to come to mind, other social relations which have developed over time may also be considered. Next, one can “expose the individual (patiently, thoughtfully) to different opportunities, environments, activities and associates. We need to structure these opportunities so that she can make meaningful choices, and then we need to respond to those choices in ways which confirm her agency and set the stage for further opportunities, and further choices” (Donaldson & Kymlicka 2016d: 187).

The arguments forwarded by Donaldson and Kymlicka provide us with an innovative manner of looking into the interests of animals whereby the emphasis lies on their ability to determine their own subjective good. As discussed in chapter 2 (see 2.3-2.4), their account is compatible with the subjective understanding of well-being which Sumner and Haynes subscribe to in their publications. Although animals do not possess any intrinsic interest in liberty, their agency delivers a reason for presenting them with a reasonable range of opportunities in order to determine their own subjective good. One does not need to be autonomous to take meaningful decisions. The lack of autonomy does not imply that guardians can do whatever they please with animals as long as no suffering or frustration is caused. Rather, by acknowledging agency, one should allow individuals to carve out their own preferred way of life as much as possible, giving up overtly fixed ideas about what the interests of animals are. To some extent, the individual herself knows best, and what well-being involves emerges

⁵³ The Harlow Experiments provide the contested support of this claim. Maternal deprivation gravely affected the mental health of the rhesus monkeys, see https://en.wikipedia.org/wiki/Harry_Harlow [accessed 27 November 2018].

⁵⁴ The affinity between Haynes on the one and Donaldson and Kymlicka on the other hand becomes apparent in the way both emphasize the need for individuals to express their unique subjective good.

during the process of fostering agency. The process is of prudential value, both for epistemic and ethical reasons. This conclusion puts pressure on for instance the following conclusion:

the harms of animal agriculture derive from the suffering and killing inflicted upon animals, rather than their use. Their use is not problematic in and of itself, because, as non-persons, animals have no interest in framing and pursuing their own freely chosen ends ... In other words, raising animals for their milk and eggs can be permissible when it avoids the routine infliction of suffering on and killing of animals. (Cochrane 2012: 87)

This may be too low a standard. Moreover, it need not be the outcome of an interest-based account of rights. Instead, though benefitting from animals is not necessarily incorrect, animals should be presented with a reasonable range of opportunities with which to explore and develop their own preferences. It is pretty much up to the animal when he or she chooses between alternative ways of life, if supported in taking significant choices. Forming a challenge to this example of animal agriculture, the maternal deprivation of calves may, as some suggest, not lead to greater suffering or frustration if this occurs immediately after birth.⁵⁵ Separating mother from calf does, however, offer a narrow range of opportunities for animals to engage in various social interactions. If we bring this to bear on the well-being of great apes, then enrolling chimpanzees in behavioral research for example without attempting to discover if they could either meaningfully consent or dissent concerns yet another manner of limiting the range of opportunities.

The case for autonomy in animals remains contentious. Cochrane leaves this issue undecided but does advise us to take a precautionary approach and continue to work on the assumption that great apes as well as cetaceans are autonomous and own liberty rights. However, as argued in chapter 2 (see 2.3), it remains unclear if animals with highly sophisticated cognitive capacities (e.g., great apes, cetaceans) are autonomous in the required sense,⁵⁶ rendering a retreat to precautionary argumentation particularly vulnerable. Rather than giving benefit of the doubt, one could also make the more challenging assumption that great apes are not

⁵⁵ However, similar to the rhesus monkeys in the aforementioned Harlow experiment (see note 58), calves appear to grow up as more socially competent when they stay with their mothers after birth, see Wagner et al. 2015.

⁵⁶ The strongest case for animal autonomy, as discussed above (see 2.3), would probably be language-trained apes.

autonomous. Even if great apes lack the capacity for autonomy, their agential capacities already give rise to numerous instrumental interests in freedom. Rather than relying upon the capacity for autonomy to do the work, we should take agency seriously. Subsequently, phenomena closely resembling full liberty rights will transpire, and the need for resorting to precautionary argumentation will evaporate.⁵⁷

Cochrane throws out the proverbial baby with the bathwater when he remarks that because animals do not have an intrinsic interest in liberty, they have only instrumental interests in freedom in order to avoid any suffering and frustrations. I draw here from the argumentation Cochrane provides in support of the animal right to life. Any interest in life being instrumental does not stop Cochrane from acknowledging a right to life. One could argue that the right to life and liberty are similar to the extent that they are instrumental with regard to other interests.⁵⁸ Animals do not have an intrinsic interest in liberty, just as they do not have an intrinsic interest in life. If animals have a right to life (based on the instrumental value of life to experience future well-being), they can also have a right to liberty, or to be more specific, as I would like to propose here, a right to freedom of opportunity (based on the instrumental value of freedom in acquiring well-being).

Just as the right to life can differ in normative weight (a gorilla will have a stronger right to life when compared with a merely sentient animal with limited psychological unity), the strength of the right to freedom of opportunity will depend on the agency of the animal (great apes present a strong case for a broad range of opportunities; fish on the other hand, will demand less in terms of opportunity range). As stated in chapter 2 (see 2.3), while autonomy appears to pertain to a more absolute nature, agency allows for differences along a gradient. Where agency is obviously present, a rather robust interest in freedom in terms of opportunities materializes.

⁵⁷ For another argument in favour of recognizing a right to liberty, see Giroux 2016. Here the account involves a republican conception of liberty and rejects Cochrane's understanding of autonomy. The account developed in this chapter does not take issue with the concept of autonomy but considers it as a sufficient and not necessary condition for having significant interests in freedom. Moreover, it disagrees with Cochrane as to the extent of instrumental interests in liberty on an interest-based account of moral rights.

⁵⁸ For a similar remark, see Giroux 2016: 37.

3.6 Concluding remarks

Deeming Cochrane's theory to present a plausible understanding of animal rights, I conclude he too hastily but nonetheless fully dismisses a moral right to liberty for the majority of animals. If one understands well-being along the lines set out in chapter 2, it is in the interests of animals to have a sufficient range of opportunities in order to determine their own subjective good. Next, I argue that whereas animals lack a right to liberty, they do have a *prima facie* moral right to freedom of opportunity. In line with the arguments forwarded by Donaldson and Kymlicka as well as by Haynes, animals are only "locked in" with regard to their own lives to the extent that humans limit their opportunities. Given the chance, animals endowed with agency are capable of making meaningful choices concerning their own subjective good.

4. Health interests: a matter of rights?

As argued in chapter 3, vital interests can generate moral rights. The interests of individual animals in not being made to suffer and not being killed provide possible grounds for rights. In addition, animals can have a moral right to freedom of opportunity, the normative strength of which correlates with their capability of intentionally thinking as well as acting. I understand these rights to fall in line with (and as being a specification of) the demands of the Great Ape Project, which not only endorses a right to life, but also the protection of individual liberty and the prohibition of torture for great apes (Singer & Cavalieri 1993).

Given these basic rights, one could ask which further rights great apes may have. To what extent do they possess more “positive” rights e.g., the right to health? Which distinct interests in health give rise to rights protection, and why?

The mere presence of interests does not suffice to having a right to health. It is argued that health differs from other interests in the sense that it requires positive action. This right may create moral duties without generating any claims of justice in terms of rights. In other words, a right to health does not exist.

Retreating to a negative understanding of the right to health can counter the criticism against a positive right. Such a right demands that humans do not impose serious threats to the health of individual great apes. Even if one does not acknowledge positive rights, a negative right to health already imposes substantial duties, hereby avoiding rather than engaging with the criticism aimed at the right to health as being a positive right.

Does this imply that a positive right to health cannot be endorsed? This conclusion depends on questions such as: to what extent are relational conditions (e.g., cooperation, membership) relevant to acknowledging a right to health. And, are these conditions sufficient or even necessary when generating the protection of rights?

4.1 Why health matters: pathology and opportunity

Why is health of moral relevance? One may argue that health is part of a good life irrespective of how it affects other interests: health is intrinsically valuable (Nielsen 2014). However, perhaps the instrumental value of health in relation to other interests carries the

most relevance. Which are those other interests? Health is related to well-being in important ways. A state of health can first of all be associated with the avoidance of pathological suffering. Although this link is contingent, as not all instances of ill health will entail suffering, ill health will often cause suffering, at least at some point (cf. Schroeder 2012). Thus, when bringing this interest in health to bear on great apes, to the level that ill health causes suffering, it becomes quite obvious in the interests of individuals to be healthy.

A state of good health also correlates with a positive life expectancy. Again, resembling its link with the avoidance of pathological suffering, health is not a necessary condition to live a long life as it is possible to live a life of normal length while coping with ill health. Health does however often facilitate continued life as well as the prospects of living a life with a normal lifespan; ill health often imposes a threat to such interests to the degree that ill health shortens one's life expectancy. It is in the interests of great apes to be healthy.

One may also draw a connection between how health not only enables individuals to function but also to realize goals in life (Nordenfelt 2006). It has been postulated that health is intrinsically normative and therefore defined in terms of its relation to well-being. As Nordenfelt (2006: 147) puts it, "A is completely healthy if, and only if, A is in a bodily and mental state which is such that A has the second-order ability to realize all his or her vital goals given a set of standard or otherwise reasonable conditions". It is also observed realizing such goals "is a necessary condition for the animal's long-term happiness" (Nordenfelt 2006: 155).

A non-evaluative understanding of health as a concept need not dismiss the normative relevance of health. Rather than being conceptually evaluative, it is possible to define health in statistical terms, while at the same time recognizing the value of health. For example, a non-evaluative definition of health as species-typical functioning, statistically defined reflects a certain range of opportunities to pursue one's own life goals. If one falls below the standard of species-typical functioning, there are reasons of fairness either to remedy or compensate for this shortcoming (Daniels 2007).

Do great apes have an interest in health because of the opportunities it provides? If one believes health becomes morally relevant for the way it reflects one's ability "to choose and pursue one's own life goals", then perhaps great apes miss out on something, as it is uncertain

whether they are able to engage in such second-order reflection. As to the extent that health supports well-being, however, great apes have a distinct interest in health stemming from the interest in the avoidance of suffering. Moreover, if indeed great apes have significant interests in possessing a range of opportunities available to them to explore and develop their preferences as individuals, health does appear to play an important supporting role after all, even if they are not able to engage in second-order reflection. The ability to reflect upon one's own life goals is overly demanding when explaining the moral relevance of health in terms of the opportunities it provides.

Apparently the following two distinct reasons for valuing health exist: (a) the avoidance of pathological suffering and (b) because health enables individuals to do things of value (Hausman 2015: 169). Both the interest in a continued life and the prospect of a normal lifespan could be cashed out in terms of the goods that life contains (including any avoidance of suffering and being enabled to do things of value).

These interests in health relevantly relate to the moral rights discussed in chapter 3. The interest in avoiding suffering has been argued to suffice to generate a moral right, demanding not to be made to suffer by others. Although ill health may result from the actions of others, it often concerns the contingency of biological processes rather than the involvement of a moral agent. The right to health would also protect to a certain degree against ill health not caused by others. Thus, whereas interests largely overlap, the right to health appears to require more than merely the right not to be made to suffer.

The right to freedom of opportunity demands a range of opportunities if the individual wishes to explore and develop his or her personal preferences. We then need to create a socio-ecological setting that is attuned to the individual ability to make meaningful choices pertaining to his or her life. Such facilitation of a meaningful choice relates to the second reason for valuing health, to wit, the way it enables individuals to fully engage and pursue their goals. Health is a treasured resource, for example, when pursuing either certain life goals (Daniels 2007) or vital goals (Nordenfelt 2006). Health is an internal ability of an individual and in general measured against his or her environment. The range of opportunities that should be available to individuals partly determines the required level of health. In order to explore their environment and interact with other animals, for instance, great apes need a certain level of health, which they might not need if their opportunities were rather limited.

Consequently, the right to health is closely linked to the right to freedom of opportunity, whereby the former provides a paramount condition for the latter.

In sum, the interest in (a) the avoidance of pathological suffering and (b) health as an internal ability serving to explore a range of opportunities both provide a case for the *prima facie* acknowledgment of a right to health for great apes. Although great apes, as is discussed in chapter 3, are probably not able to reflect on their life goals in the same way autonomous beings can, this condition does not discount their interests in exploring a range of opportunities. Much in accordance with Daniels' line of thought, the health of great apes hereby reflects a range of opportunities that is morally relevant to consider. The right not to be made to suffer, the right to life, and the right to freedom of opportunity are all relevant to this understanding of the right to health whereby not one of these rights captures all aspects of a right to health, thus providing space for a distinctive right to health accompanied by its specific obligations.

4.2 Why not just duties?

Now let us look at the objection formulated as follows: of course, great apes take an interest in health. While our specification of these interests is interesting, it does not provide us with a compelling reason to recognize a right to health. The three rights proposed by the Great Ape Project are basic in the sense that their correlative duties require restraint on the account of the duty holder. Interests in health impose a positive duty, which is rather differs from the duties that correlate with negative rights. While we might have the duty to not only protect but also promote the health of great apes, it is by no means a demand of justice. In other words, great apes do not have a right to health as a demand of justice based on their interests in health.

This objection distinguishes between various types of rights. The three rights concerning the Great Ape Project are negative rights in the sense that they require obligatory restraint on the account of the duty holder. In other words, they demand one should not torture, imprison or kill a great ape. These basic rights are very clear, and not overly demanding. A right to health, as one may assume, would require far more resources and efforts in order to fulfill its corresponding obligations. The International Covenant on Economic, Social and Cultural Rights (1976), for example, describes the human right to health as “the right of everyone to

the enjoyment of the highest attainable standard of physical and mental health”.⁵⁹ Although philosophers often take issue with this formulation, they nevertheless do by and large understand the right to health as a positive right (Rumbold 2015).

Positive rights have attracted a wide array of concerns. As is suggested, positive rights can be considered less stringent than negative rights (Pogge 2001). Whether or not we owe great apes more, we at least acknowledge their basic negative rights that protect them against any woeful infringement. Another issue that arises when comparing negative and positive rights is the identification of a duty holder (O’Neill 2005). Everyone is duty-bound not to torture, imprison, or kill great apes, but who holds the duty to care for their health needs? Furthermore, which level of health needs to be attained and maintained as a matter of justice (Wolff 2012a)? To what extent does the right to health become the center of gravity of all moral demands in its aim to provide “the highest attainable standard of physical and mental health” (Caney 2010)?

These considerations may yet fully undermine the recognition of certain duties in order to protect the health of great apes. However, they do impose significant obstacles as to recognizing a moral right to health, which implies that those representing the interests of great apes by proxy cannot claim as a requirement of justice any health-related goods or services to benefit great apes. Action aimed at protecting and promoting their health is charitable, though optional.

4.3 Considering a negative right to health

What if we put aside our interest in a positive right to health, and turn to a negative one instead? Or put in other words, why not go for a minimal goal (protecting health against infringement) instead of maximizing health? A minimalist account of the human right to health in order to counter certain objections to its maximalist formulation has been developed: a negative conception of the human right to health entails that “all persons have a human right that other people do not act so as to create serious threats to their health” (Caney 2010: 79).

This understanding of the right to health effectively deals with the above-mentioned concerns as follows: “First, it does not require people to maximize the health of all. Second, it does not

⁵⁹ <https://www.ohchr.org/en/professionalinterest/pages/cescr.aspx> [accessed 2 May 2019].

affirm a positive right to be (maximally) healthy. It affirms only a negative right that persons do not harm the health of others” (Caney 2010: 79). It is hence clear whoever holds the corresponding obligation: everyone who could negatively affect the health of others. As we should not strive at endangering someone’s life, we must likewise not be causally involved in bringing about the ill health of others.

Whereas the negative conception of the right to health captures only part of what the right to health is often believed to comprise, the implications of such limited formulations are striking nonetheless.⁶⁰ Consider the anthropogenic influence on the climate and how it affects human health in various negative manners (Caney 2010: 75). Climate change represents one of the numerous ways in which individual health is (on occasion severely) disadvantaged as a consequence of preceding human conduct, rendering those involved to be at least duty-bound to discontinue such harm. Note, however, that a negative right to health would not demand (a) any policy as a matter of justice to protect individuals from ill health due to natural causes or (b) lifting them to a certain level of health.

Considering the interest great apes have in health (as discussed above) I suggest that, at a minimum, and in terms of a *prima facie* right, all great apes have a right that humans do not act so as to create serious threats to their health. The practical implications of this claim will be addressed in the following chapters. For the time being, it will suffice to point out that this right imposes substantial duties without having to rely on the notion of a positive right.

Moving from a positive to a negative right is largely executed for pragmatic reasons and does not fully satisfy. Many regard the right to health as being a positive right. Thus, transforming its nature for pragmatic reasons does at first hand not provide us with a more comprehensive justification of the nature of the right to health or its scope. Another means to address the above-mentioned issues comprises arguing for certain background conditions allowing the right to health to become plausible. Rather than grasping the right to health as a negative right, such an approach seeks to restrict the scope of recipients.⁶¹

⁶⁰ Caney who proposes this understanding of the right to health primarily for strategic reasons is, in other words, not necessarily opposed to a more positive understanding of the right to health but takes a modest approach.

⁶¹ Of course, modifying the nature of the right or altering its scope need not exclude each other.

4.4 The efforts of animals and their entitlements

A right to health being a positive right can be held plausible only under specific conditions. For example, the right to health could be associated with citizenship (Donaldson & Kymlicka 2011). The positive obligations following from the right to health in this case rely in part on the membership of a particular society. The human right to health is generally understood in this manner. Concepts regarding human rights presuppose a specific background not only characteristic of the social fabric of society but also deemed necessary to ground such entitlements. Humans are social animals and live together in societies, delineated political communities. Human rights function as a normative reference point within the context of being a member of a certain community. Moreover, by narrowing the scope of health justice down to society, the concern of identifying a duty holder becomes far more manageable. Whereas the scope of these rights is universal in the sense that each and every human has this right, governments are held responsible to fulfill the corresponding obligations emanating from human rights held by their respective citizens (Wolff 2012b). The right emerges from the collaborative efforts of citizens. The ability of humans to contribute in this way renders them eligible for specific benefits in terms of positive rights e.g., access to health care. Cooperative efforts result in certain goods that give rise to considerations of distributive justice. Only those that contribute and cooperate should benefit from and be allocated a portion of the collective goods.

If the right to health is associated with contributing to the collective good, then animals are apparently immediately excluded, as one could argue that they are unable to cooperate. This assessment would nevertheless be too hasty because it, at least, presupposes an opinion on what contributing to society entails while not only ruling out the cooperative efforts of certain animals but also omitting other understandings of contribution which could in the end prove relevant. Several political theorists (e.g., Valentini 2014; Coeckelbergh 2009; Donaldson & Kymlicka 2011) have postulated that animals cooperate in several ways, which entitles them to a fair share of goods to be distributed. Dogs perform various tasks within society. For, they “herd cattle, help the blind to walk, guard our property, participate in rescue operations, work with the military and the police (among other things as sniffer dogs detecting illegal substances), assist in psychological therapies and are used in hospitals to relieve patients’ anxiety” (Valentini 2014: 42). Their contribution to societal interests is considerable, whereby the anthropocentric bias must be noted.

One could remark that only specific dogs are engaged in such activities. Many dogs will go through life without performing any such tasks. Does this imply that only working dogs have positive rights? Or, because certain dogs cooperate, do the other canines receive a free pass? In other words, could the contribution of for instance Labrador Retrievers suffice to convey all kinds of dogs – indeed, across the spectrum of the rather absurd human-imposed differentiation of breeds – with positive rights? Moreover, is this privilege restricted by means of species boundaries?

Perhaps many pet dogs do contribute after all. A second argument may now broaden the scope in order to reach beyond working dogs only. Canines provide humans with company. Therefore, considering ensuing benefits, perhaps it is not unreasonable to remark: “to the extent that dogs contribute to providing these goods, they should be appropriately rewarded” (Valentini 2014: 43). Needless to say, a number of dogs in society also live without either performing work or contributing in any other relevant manner. This fact however should not trouble an associative account of canine justice, “just as the existence of some humans who cannot cooperate in society (e.g., psychopaths or the severely disabled) does not disqualify human beings in general from the status of fellow cooperators” (Valentini 2014: 43.)

The above account compels the inclusion of certain animals into an associative account of justice.⁶² The distribution of health-related goods pertains to a matter of justice. That being the case, if cooperation provides a basis for positive rights concerning humans, then animals should not be excluded, as they contribute to society in many ways. Dogs are not the only species of animals capable of contributing. If we assume that, while conforming to the high ethical standards resembling those upheld with regard to the research of human behavior, the behavioral research of great apes for example can teach us a great deal about, among other things, the similarities and differences with humans, then this also comprises a possible relevant contribution. Hence, one could argue that (a certain number of) great apes also have positive rights.

Whether an associative account compels in itself is less obvious. When writing on canine justice, Valentini indicates access to healthcare for dogs. However, while a number of positive rights may be earned, based on one’s contribution to and role in society, it remains unclear how individual access to healthcare forms an “appropriate reward”. In which manner does the

⁶² Valentini views the associative account of justice to be an assumption rather than a theory to be justified per se.

provision of health care equal a reward? This question becomes especially problematic when considering individuals unfit to cooperate with and contribute to society. All individuals will be dependent on fellow citizens at any rate during their childhood and often later in life, too (Nussbaum 2006). A number of humans will heavily depend upon others their entire life. Rendering their entitlements (e.g., access to health care) contingent upon their positive effects on society is implausible. The concept of contributing to society in order to receive benefits in terms of positive duties is erroneous. A society of course requires the efforts of its citizens to provide benefits in terms of health care and security, but this does not entail that one is entitled to those benefits only if one is able to contribute and/or cooperate. While any associative account of justice should include animals as Valentini convincingly demonstrated, perhaps more importantly, such an understanding of distributing goods should be challenged on its own grounds.

4.5 Is citizenship required?

Another possibility is to take a group-differentiated approach with regard to positive rights, hereby basing one's entitlements on membership rather than merely on cooperating. Donaldson and Kymlicka (2013) argue that (a) domesticated animals are inextricably part of what they refer to as "mixed human-animal societies" and (b) we should recognize these animals as citizens and thus relevantly similar to human members of society. We read here too that in their opinion only domesticated animals can have a right to health care ⁶³: "Domesticated animals can be incorporated into a public medicare plan precisely because they are domesticated, and hence able to flourish within a mixed human-animal society. As with the human members of this society, they are socialized to comply with social norms which operate both to minimize the risks they impose on others and which protect them from risks" (Donaldson & Kymlicka 2013: 149-50).

Their viewpoint differs from the associative account because it places an emphasis on cooperation above contribution. Societies are inextricably multispecies, including their norms. If animals are able to comply with these norms and flourish, then they must be assigned a citizenship status along with all the positive benefits which citizens enjoy, such as the positive right to health care. Instead of an entitlement derived from one's contribution to the collective good, the contingent factor of being a member with the capacity to flourish in a mixed

⁶³ Instead of arguing for a right to health, Donaldson and Kymlicka focus on the right to health care.

human-animal society is underlined as follows: "health care is a right of membership in contemporary societies, and domesticated animals have the right to be treated as members" (Donaldson & Kymlicka 2011: 142). This is a nationalist stance in the sense that it limits the right to health care to human as well as animal compatriots. Not entitled to the benefits of society are for instance what Donaldson and Kymlicka designate liminal animals (e.g., rats, pigeons). These animals lack membership, while inhabiting human-made societies and living amidst wild animals in a relatively independent manner, distanced from human affairs altogether.

Valentini's account is contestable when explaining the apparent duties of justice towards those who are unable to cooperate. Donaldson and Kymlicka need to explain to us why compatriotism or membership is attributed such normative weight. Do undomesticated animals lack the required relational status for holding entitlements such as the right to health? Is the ability to comply with social norms and flourish in a mixed human-animal society necessary? Donaldson and Kymlicka acknowledge that whenever humans are confronted with a weakened or otherwise ill liminal animal, he or she possesses a rightful claim to health care. Such animals should either be rehabilitated in order to be released or become full members of society. The interests of the individual denizen animal overrule any lack of citizenship status and to a certain degree places pressure on the normative import of membership. The right to healthcare may perhaps extend beyond the members of a particular society, as there are always such liminal animals in need. What would be the objection against developing a health care infrastructure to assist any liminal animals in need of health care?

Such an initiative would conflict with the interests of animals themselves, as Donaldson and Kymlicka would argue. Membership only informs us of part of the narrative. An additional negative argument restricts the right to health care to members only, to wit, if non-member animals have a right to health, either liminal or wild, this would imply respectively "radical abridgement of their individual freedom and collective sovereignty rights" (Donaldson & Kymlicka 2011: 150). The duties corresponding to their individual right to health would restrict their freedom, which is unacceptable to Donaldson and Kymlicka. Even if it would be possible to make health care available to them, it would violate their liberty rights.

Does the positive argument in itself suffice to restrict the scope of the right to health to members only?⁶⁴ As far as Donaldson and Kymlicka are concerned, liminal animals in need of health care are indeed an exception to the rule. I however suggest that these cases exemplify the reason why interests rather than membership or compliance with social norms provide a necessary condition for the right to health. If the negative argument fails, and we can thus accommodate the health interests of animals outside of society without violating their liberty rights, then the positive argument does not succeed in restricting the scope of positive duties to members only.⁶⁵

The requirements of contribution or membership both fail to succeed in restricting the scope of the right to health. Does the right to health then transgress both species and geopolitical boundaries, hereby ushering in a cosmopolitan line of thought?

4.6 Going cosmopolitan

The attempts to significantly restrict the right to health's nature or scope appear to be in vain. Rather than transforming either the nature of the right or its scope, the right to health should perhaps be understood as a positive right after all.

What does the distinction between positive and negative rights specifically involve? It partly follows from the concept: it is worse to cause harm, than to allow harm to happen. Here a moral relevant distinction between doing and allowing is created (Shue 1996: 37). A negative right protects against the harmful actions by others whereas a positive right requires beneficent action. Positive rights therefore require beneficent efforts irrespective of one's involvement. In other words, even if A is not causally implicated in the predicament of B and

⁶⁴ My aim here is to establish if compelling principled arguments restrict the scope of justice in terms of positive rights to members, most specifically, the right to health. In chapter 6, I will explore the negative argument in greater detail, and in chapter 7 the right to health of great apes in the wild. One possibility comprises their holding the abstract right to health but nevertheless almost in all cases without a concrete right to health.

⁶⁵ Whereas it may be the case that the Government of the Netherlands should be held responsible for health-related duties towards all the Dutch, as with the German Government towards the Germans, the possibility of recognizing the health interests of those residing outside a society is not excluded. In other words, while delivering an adequate distribution of health-related duties with regard to members, these duties need not be all there is. Instead of only recognizing the interests of members of society as plausible grounds for a right to health, one could argue that the health interests of all inhabitants of a particular nation state, rather than merely those of the members of society, impose duties specifically for the involved nation state. This stance remains nationalist to the extent that duties are restricted to nation states whereby not membership, but geographical borders draw the lines of responsibility.

how it came about, the positive rights of B correlate with positive duties held by A to nonetheless render assistance (Pogge 2009).

The beneficent obligations imposed by positive rights have led certain scholars to doubt that one could set off from sufficiently important interests to directly arrive at positive rights. Though individuals in need obviously are significantly interested in receiving assistance, a duty-based perspective rather than starting directly from moral rights may be required here (O'Neill 2005). It is without a doubt praiseworthy to help the needy, but it is something rather different to claim that disadvantaged individuals have a right with a corresponding duty of justice to render assistance. Acknowledging a right makes no sense when it cannot be claimed either due to a lack of institutional recognition of such claims or the result of any indecision as to who bears the corresponding duty. A necessary condition for positive rights (aka welfare rights) is the existence of institutions where one can claim one's rights. "Welfare rights" (e.g., the right to health) are hereby separated from "liberty rights" (e.g., the right not to be killed) (O'Neill 2005). In the latter case, institutions are not required as each individual bears the corresponding duty.

Does this difference between types of right suffice to reject the notion of a positive right? Is it not the case that "even if we assume a meaningful distinction between negative and positive duties, all rights will typically have as counterparts duties of both sorts" (Tasioulas 2007)?⁶⁶ A number of classical negative rights will imply positive duties and vice versa, positive rights will involve negative duties.

Do rights have to be claimable in order to exist? The way I see it, rights need not be claimable currently in order for them to exist in a meaningful manner. The existence of human rights need not rely upon the prior identification of duty holders and the specification of their duties, but rather on the interests they represent.⁶⁷ Based on such an understanding of moral rights, significant interests give rise to a *prima facie* rights protection (Cochrane 2013b; Tasioulas 2007). The interest-based theory of rights "... can allow for knowledge of the existence of rights (hence of the justification of duties corresponding to those rights) without the duties being precisely specified or allocated to particular agents. Instead, the allocation and

⁶⁶ This train of thought can be traced back to Shue 1996.

⁶⁷ For a similar viewpoint, see Wolff 2012b.

specification is a further question, not one that needs to be answered in order to establish the existence of the right” (Tasioulas, 2007: 92).

The significance of interests delineates *prima facie* rights, a process slightly different from the specification of concrete rights, and identification of duty holders. Pressure is hereby placed on the distinction between positive and negative rights, as well as on the process of decreasing the normative force of the former: what matters is whether certain interests suffice to generate rights protection, not whether they involve predominantly negative or positive duties. Being of a more positive nature does not disqualify one’s existence as a right.

If, however, a number of abstract rights never result in a concrete right with corresponding duties, the concept of such abstract rights becomes superfluous. O’Neill (2005) criticizes the concept of welfare rights on this basis. Nevertheless, abstract or *prima facie* rights play an important critical role in the assessment of institutions (Tasioulas 2007; Ashford 2007; Garfield 2001). This is the reason why we should be careful not to immediately infer from a lack of concrete rights the non-existence of their *prima facie* predecessors. The failure to establish concrete rights may disclose faults not only within the institutional framework but also as to other relevant background conditions, rather than present us with an expression of its own conceptual shortcomings (Wolff 2012a).

Duties do have to be executable in order to acquire a right to meaningfully exist. There is no point in demanding the continuation of one’s life beyond a normal lifespan, as this is generally simply not feasible (Wolff 2012a). Determining the feasibility of duties is not always straightforward. This procedure should be carried out with consideration of the critical function that rights embody. For example, “In judging whether there is a human right to antiretrovirals, one cannot simply take as given the price that pharmaceutical companies, motivated by profit-maximization and asserting rights conferred by patent laws, charge for such drugs. Those prices are the upshot of policies formed within a market system and an intellectual property regime that may themselves be morally deficient in salient respects” (Tasioulas 2014: 298).

The concern for feasibility supports the dealing with any issues regarding the scope of the right to health, while at the same time challenging contingent reasons for acknowledging positive rights (e.g., nationality, species-membership, one’s ability to contribute). Rather than

the installing of specific conditions for the right to emerge, it is the significance of interests considered within the feasibility-based bounds that determines the demands of concrete rights. If and only if an interest carries sufficient weight to impose a duty upon others does it generate a moral *prima facie* right.

The right to health is hereby rendered a tentative cosmopolitan right: the interests give rise to moral rights, not any group-affiliation. Moreover, as suggested and argued for in chapter 3, compassion would bolster the interest-based theory of moral rights championed by Cochrane; it represents a moral bedrock rarely identified in the discourse of justice. Compassion develops out of the recognition that one's own suffering provides sufficient reason to disapprove suffering wherever it is found and motivates one to alleviate it to the best of one's ability. In and of itself, it cuts across any human-imposed boundaries, highlighting individual sentience and the moral salience of suffering and happiness. Whereas Cochrane's account remains vulnerable to any purported duty-holder who denies that the interests of others are sufficiently weighty to be duty bound, they would now have to reject compassion as a ground for shunning of such duties. Any rejection of compassion as a ground for normative theory should bear the burden of proof rather than the other way around, given the saliency of suffering to any sentient individual. In terms of the scope of justice, if indeed compassion provides the thrust behind interests-based theory as I hold it should, then any such theory should be cosmopolitan by default.

4.7 Concluding remarks

A number of interests underpin a right to health of great apes, to wit, the avoidance of pathological suffering, continued life and the freedom of opportunity. The right to health should be considered as a logical follow-up to the three basic rights which the Great Ape Project defends. Objections which attempt to categorically differentiate the right to health from the other three rights fail, for the difference pertaining to the interest-based account of moral rights developed in this thesis largely dissolves. If and only if an interest carries sufficient weight in order to impose a duty upon others does it generate a moral right. Whether this obligation is considered either negative or positive is secondary to the consideration of its feasibility.

The interest-based account also renders the right to health cosmopolitan. Attempts to limit the scope of the right to health in reference to contingent factors fail. Interests rather than such

contingent factors (e.g., contribution, cooperation, membership) underpin moral rights. If interests suffice to impose duties upon others, a *prima facie* moral right has come into existence.

In chapter 5, I will focus on demands concerning a right to health in terms of its corresponding duties. Which level of health is required? Should we limit the range of duties to certain determinants of health or is such a restriction unjustified?

5. The right to health: its social, interspecies, and ecological determinants

In the previous chapter, the avoidance of pathological suffering and having the opportunities which health as an internal ability provides have been indicated as grounds for rights protection. We should now take a closer look at these two factors and their implications. What does a right to health involve in terms of its content and correlative duties? We require a type of decision rule in order to (a) assist in establishing the level of health of individuals that needs to be safeguarded and to (b) specify correlative duties.

Jonathan Wolff sets off from the premise that the human right to health involves protection against standard threats to health. Perhaps such a minimal conception provides a solid starting point to further explore a plausible account of a hominid right to health. Assuming this is indeed the case, such an understanding does face at least two specific challenges that require our attention. Concerned about unjustified paternalism, certain scholars argue in favor of restricting the scope of health-related duties (Weinstock 2011). Furthermore, a broad perspective on health duties invites the Herculean task objection: it is very difficult and costly to include each and every determinant of health (Tasioulas & Vayena 2015). Should we merely focus on medical services and public health measures?

The present chapter will address these objections and bring them to bear on the health of great apes. Moreover, it will consider the extent to which correlative duties to the right to health can be viewed in isolation from ecological interdependency. Instead of limiting duties to the medical realm, we should broaden the scope of relevant determinants to include ecological ones.

5.1 The need for a decision rule

The human right to health is a so-called socio-economic right which has been acknowledged in Article 12 of the UN International Covenant on Economic, Social and Cultural rights. A ground for the recognition of the legal right to health as well as the possibility for individuals to claim their rightful entitlements is hereby provided. However, this thesis presents a more restricted scope by means of focusing on moral rights – that may or may not give rise to legal counterparts. As discussed in previous chapters, the interest-based theory of rights creates a coherent and plausible understanding of moral rights, including the right to health in the way it captures health interests.

The question now rises: if the health interests of humans and great apes are sufficiently important to impose duties upon others, what does this involve specifically? What can be required from the duty holders? It would be unfeasible to guarantee a status of health because health for an important part depends on biological processes beyond our control (Wolff, 2012a). Thus, no matter how much money is spent, it remains impossible to for once and for all prevent any disease from occurring (Rumbold 2015). One suggestion is to guarantee access to health care, so that if one suffers from ill health, ample possibilities exist to regain one's health by means of undergoing medical treatment. However, this paints an incomplete picture of the dependency and vulnerability of health. Numerous social determinants of health lie beyond the access to health care. For example, one's geographical location, income and education may all heavily influence one's health. When merely focusing on health care, a significant blind spot remains. Furthermore, if the right to health is based on one's interests, then duties to safeguard the access to health care and policy aimed at the social determinants of health are not categorically different. Health can be protected in many ways including, but not restricted to, health care only. The right to health cannot guarantee health, but it may impose a range of duties upon others to support and protect health.

Which level of protection does the right to health require? The number of resources available to research and the investment in specific medical treatment options are clearly limited (Rumbold 2015). Theorists have developed several decision rules, which contribute to determining the demands of a right to health in terms of its corresponding duties. Rumbold (2015) presents us with a helpful overview. It has been argued that the only limitation is technological in nature (Outka 1974). This observation entails that everything that is possible given the current state of medical technology falls within the scope of the right to health. Needless to say, this is much more demanding than providing basic health care and/or public health measures. The UN account, as discussed briefly in chapter 4, stipulates that the right to health entitles the rights bearer to "the highest attainable standard of health". Such a formulation is fraught with ambiguity, as one may either infer from this too low a standard or require everything possible instead (O'Neill 2005; Rumbold 2015; Wolff 2012b). This ambiguity, in turn, has led many to "attempt to tie the limit of the content of the right to health to a certain conception of what constitutes a reasonably healthy life" (Rumbold 2015: 10), often defined in the light of a standard of health within a particular group or community.

5.2 A modest account: protection against standard threats to health

Jonathan Wolff (2012b) suggests understanding the demands of the right to health in terms of protection against the standard threats to health.⁶⁸ Rights holders can only be protected against violations of their right to a certain degree. Protection against standard threats to health entails that the right can only impose duties upon others when threats to health are serious enough and when they are standard. Determining whether a threat is serious enough will on occasion be clear, such as in the case of broken bones. Of course, moving along the continuum between indisputable serious threats on the one hand to very minor threats on the other will involve a grey area, but “the borderlines are fuzzy but not impossibly so” (Wolff 2012a: 222). The difficulty of drawing a line along this continuum is inherent to the specification of rights rather than a disqualification of the right in question. A *prima facie* right requires specification pertaining to concrete demands in practice, as discussed in previous chapters.⁶⁹

Perhaps a more difficult issue will comprise the determination of when a threat to health is standard. Wolff opines that the state of technological advancement determines to a certain level whether a threat is standard.⁷⁰ The discovery of antibiotics as well as their widespread availability provides an important condition to consider bacterial infections as standard threats in the sense required. Old age as “a natural cause of death” does not involve a standard threat, not because death or the process of dying is not serious but as a result of the impossibility of (yet) prolonging human life indefinitely. Perhaps death due to natural causes will become a standard threat to health in the future (Wolff 2012a). Given the current state of medical technology, substantial prolongation of human lifespan remains futuristic.

Does this render the classification of standard threats completely contextual? Wolff holds the view that this is not the case whereby he challenges the relevance of one’s socio-economic context as being a determining factor of standard threats. In his opinion the fact that options of treatment are limited for many people living in developing countries, for example, does not discount the recognition of HIV as a standard threat for all humans. The existence of medical treatment of, and preventive measures against HIV/AIDS, causes HIV to present a standard threat to all humans.

⁶⁸ This insight can for instance be traced back to Shue 1996.

⁶⁹ For a discussion on the right to health care as a *prima facie* right that needs to be specified in the light of the interests of others, see Cochrane 2012: 45-6.

⁷⁰ Wolff does not go as far as Outka who reads the demands of the right to health directly from the current state of medical technology.

Pertaining to each and every standard threat to health, “a solution could reasonably be expected to be in reach, either because treatment could be made available on a routine basis, or because the condition is widespread and urgent and there is every reason to think that the normal processes of scientific research would lead to a solution” (Wolff 2012a: 223). The threat should be susceptible to preventive and/or curative measures within reasonable and feasible limits. The current state of medical technology and knowledge proves to be more than sufficient at successfully treating patients who suffer from injuries e.g., uncomplicated fractures. Moreover, treatment can be made available on a routine basis and will generally not be hugely resource demanding.

Matters differ whenever novel infectious diseases confront us. In 1982, once the CDC (Centers for Disease Control and Prevention) provided a detailed case-description together with the abbreviation AIDS (Acquired Immune Deficiency Syndrome), major efforts made from 1996 on have resulted in the possibility to suppress HIV from developing into AIDS.⁷¹ If treatment was as yet unavailable, HIV/AIDS still represented a standard threat under the assumption that medical technology would be able to lead to a solution.⁷²

In sum, Wolff proposes two conditions pertaining to the right to health, to wit, it should (a) protect individuals against serious threats to their health and (b) be reasonable as well as feasible to avert the threat. In that sense, Wolff’s account provides basic protection which, at least, involves access to health care. Such access presupposes the availability of resources for pharmaceutical research, which not only serves to improve medical treatment of existing threats as well as the capacity to address novel emerging infectious diseases. In order to safeguard basic protection, the right to health determines, by means of its understanding of all that standard threats entail, how resources should be distributed as to support not only health care infrastructure but also its associated research strategies.

Standard threats to health do not limit health duties to curative measures only. As indicated above, if the right to health is based on one’s interests, then it is not clear why one should differentiate between an access to health care and a policy aimed at the social determinants of health. It is argued that, “There are many determinants of health, with health care being only one, and perhaps not the most important when compared to hygiene, sanitation, nutrition and

⁷¹ <https://npin.cdc.gov/pages/hiv-and-aids-timeline> [accessed 25 March 2019].

⁷² Of course, in addition to preventive measures (education, providing condoms).

adequate housing” (Wolff 2012a: 222). By arguing for protection against standard threats, Wolff prevents the right to health from claiming too much on the duty holder’s account, while at the same time including all relevant threats irrespective of their nature. These threats not only include direct threats (e.g., infectious diseases, bodily injuries, threats of a more indirect nature). Inadequate hygiene and sanitation may, for example, facilitate opportunistic pathogens. Nutrition can be inadequate in many ways, for example, by means of lacking important elements or by a mismatch between one’s daily caloric intake and daily caloric need. Micronutrient deficiencies can have various negative consequences such as preventable blindness in children due to a lack of Vitamin A, anemia and a weakened immune system as a result of iron deficiency.⁷³ The consumption of high caloric food, as an example of abundance rather than of a deficiency – albeit frequently accompanied by nutritional deficiencies too – can lead to obesity, increasing the risk of developing cardio-vascular symptoms and decreasing one’s life expectancy.⁷⁴

Importantly, the underlying drivers of these different nutritional inadequacies are very much socio-ecological in nature. Micronutrient deficiencies, food insecurity, and hunger often result from political instability (Sen 1983). The global rise of obesity has been explained in part by the concept referred to as “obesogenic environments”, which is defined as “the sum of influences that the surroundings, opportunities, or conditions of life have on promoting obesity in individuals or populations” (Lake & Townshend 2006: 262). People residing in urban environments are systematically exposed to marketing and to the abundance of unhealthy food options, rendering it a challenge to maintain a wholesome and balanced diet. Eating healthily may involve more effort, knowledge and financial means. This observation illustrates the necessity to investigate the socio-ecological determinants pertaining to health in order to establish a sound survey of health and its vulnerabilities. To limit one’s attention to health care would presumably lead to a largely symptomatic way of dealing with health problems such as nutritional deficiencies and obesity (Lang & Rayner 2012). As a consequence, this line of reasoning could result in a very wide range of duties called for by the right to health, which may well be problematic too.

Before looking into this range of duties, one could object that I have not argued why we should accept Wolff’s account in the first place. To what extent is his account correct? In the

⁷³ <http://www.who.int/nutrition> [accessed 15 March 2017].

⁷⁴ <http://www.who.int/mediacentre/factsheets/fs311/en> [accessed 15 March 2017].

previous chapter, I have put forward the claim that one's basic health needs carry sufficient weight in order to impose at least a number of duties upon others whereby the interests in health as plausible grounds are considered to acknowledge a *prima facie* right to health. Generating a right on such an account depends on our judging the underlying interests as sufficient to impose duties on others. By depending on rather uncontroversial assumptions, I believe Wolff's minimal proposal regarding the demands of the right to health in terms of protection against standard threats does indeed provide a plausible understanding of the right to health. Wolff first of all improves upon the ambiguous formulation of the demands of the right to health as "the highest attainable standard" by proposing the much clearer formulation of protection against standard threats instead. Furthermore, the condition of protection against standard threats is plausible in itself. I assume that numerous serious threats to health carry sufficient weight to impose at least several duties on others, especially given the moral bedrock that compassion provides. Moreover, because Wolff understands standard threats largely in terms of urgency, reasonableness, and feasibility, the demands of the right to health follow from rather intuitive premises. This is the reason why I hold the view that Wolff's account presents us with a plausible formal understanding of what a right to health would at least involve.

To summarize this section, the right to health imposes duties on others to the effect that individuals are protected against standard threats to their health. In order to be standard, threats first of all need to be serious enough, which inevitably involves a grey area, requiring specification in the light of the interests of others. Because threats also need to be standard, certain normative presuppositions are involved concerning the possibilities of current medical technology and policy in order to either make treatment available or to avert threats to health in other ways.

Now that we have established an idea of what a *prima facie* right to health involves in general terms, we must discuss the appropriate range of health-related duties in order to put some flesh on the bones of these obligations. Should it be restricted? In 5.3 (see below), I will discuss two objections against a wide range of duties.

5.3 The right to be unhealthy?

Wolff has a point when he argues that the right to health should not be disconnected from the various determinants of health as they often play a definitive role with regard to the health

status of individuals. However, several issues require our attention before exploring Wolff's proposal slightly further. One can object his account is problematic because it leaves open the kind of duties which the right to health imposes. By arguing for a protection against standard threats to health rather than an access to health care and a number of public health measures (such as vaccination campaigns), Wolff's right of health will impose too wide a range of duties.

The underdetermined nature of health-related duties could prove problematic for example by (a) allowing for unacceptable levels of paternalism. Certain individuals may wish to engage in unhealthy behavior, even fully aware of its possible negative health consequences. In addition to concern for such meddling, (b) a potential broad range of health-related duties not only demands Herculean efforts but also invites chaos with regard to connecting rights, duties, and duty holders. This is the reason why some favor a right to health limited to a distinct range of health-related duties.

As to the aforementioned issue (a), one may worry that the right to health implies measures that curtail the freedom of individuals to live their lives on their own terms, even if this implies certain risks affecting their health on the short- or long-term. Weinstock (2011) invites us to imagine political ramifications of a supposable positive effect of vacations spent in cold places on one's lifespan when compared with beach holidays. He opines the state should not send people into the cold. Protecting individuals against threats to health is limited by means of a reference to individual freedom. The same goes for other forms of behavior (e.g., extreme sports, smoking). From a liberal viewpoint, people should be allowed the freedom to engage in such behavior. I agree with Weinstock (2011: 432) when he argues that "the question of the line separating defensible from excessive paternalism is very much a matter of ethical controversy".

In my view, however, it is morally unproblematic to restrict to some extent the behavior of non-autonomous beings in order to protect their health. One should even demand effective action at the level of social determinants of health for example by means of preventing children from starting to smoke and/or to suffer from the effects of passive smoking. The concern about paternalism does not appear to gain much traction when we turn towards beings who lack autonomy. Autonomy perhaps is a necessary condition for having "health-agency", the "freedom of choice in regards to decisions affecting one's health-level" (Nielsen

2014: 413). It is thus up to me, as an autonomous agent, to choose whether or not I will train for a marathon (leaving aside the extent to which such activity is healthy) and eat my greens. My ability (in principle) to be aware of the positive and negative impact of my behavior on my health in the short- and long term should arguably provide me with the opportunity to decide for myself; a line of argument that does not apply to non-autonomous beings. Certain great apes exhibit extraordinary abilities related to their own health, for example the ability to self-medicate (Huffman & Wrangham 1996). Nevertheless, this does not necessarily imply the awareness of one's actions pertaining to one's own health in the long- or even short-term. It is unclear if animals, even great apes, have health agency as described above, as this is part of an autonomous agency.

Though great apes might lack the specific type of health agency described above, they unmistakably have agency (as discussed in chapters 2 and 3) in terms of "self-willed or initiated action which carries an expectation of efficacy" (Donaldson & Kymlicka 2011: 180). Agency thus presents us with an important factor by means of which one's interest in freedom can be determined. These interests generate a *prima facie* right to freedom of opportunity. The question now rises: how do their interests in freedom relate to health?

Recalling the scaffolding of choice of non-autonomous individuals (see 3.5), it is here that Donaldson and Kymlicka explain this scaffolding as a necessary condition of dependent agency. Even if individuals lack autonomy, they can still make meaningful choices regarding their lives by means of expressing their agency. Scaffolding choices involves certain conditions that need to be in place in order for such individuals to develop and explore their agency: "starting from a safe and secure social membership, new activities, experiences, and learning moments are progressively introduced in ways that are meaningful" (Donaldson & Kymlicka 2016c: 64).

As will become apparent below, safeguarding health, at least the protection against standard threats, should be an element of such scaffolding. Whereas non-autonomous individuals have a right to freedom of opportunity, they do not have the ability (in terms of autonomous agency) to autonomously choose to engage in unhealthy behavior, as they lack health agency. Any concern about paternalism with regard to health promoting measures at the level of social determinants of health for non-autonomous agents then appears largely irrelevant. It is indeed apparently hugely plausible that any lack of autonomy requires paying increased attention to

the social determinants of an individual's health. The right to freedom of opportunity does however push back against an entirely paternalistic attitude. Great apes should have access to a range of opportunities that allows them to develop and explore their agency. The level of risk should reflect the tension between interests in health and employing one's agency, rather than only looking at maximizing health through all means available. Such balancing should also attend to individual traits; a difference in terms of risk-taking between individuals will exist (Donaldson & Kymlicka 2016c).

An overly protective attitude towards the opportunities of non-autonomous individuals could backfire. A recent systematic review into the relation between risky outdoor play and health indicators on the one hand and the conduct of children aged between 3 and 12 on the other "revealed overall positive effects of risky outdoor play on a variety of health indicators and behaviours, most commonly physical activity, but also social health and behaviours, injuries, and aggression" (Brussoni et al. 2015: 6424). Consequently, perhaps even slightly paradoxical, in order to safeguard the health of children, we should provide them with ample opportunities for "risky play".

Though children do not autonomously assess their conduct in terms of its long-term health effects, more freedom in terms of opportunities does have an overall positive health impact. Is there perhaps a similar relation between health and freedom of opportunity for great apes? Of course, as could be objected, findings in children aged between 3 and 12 may not inform us hugely about the relation between risky play and health of great apes. Nonetheless, I believe "risky play" does provide us with a telling example of how risk and health relate. At least, it challenges policies that restrict the freedom of great apes with the reason of safeguarding their health. How does a less restrictive environment affect the health of great apes? Empirical evidence must support such argumentation.

Concluding the discussion about the concern for abounding paternalism, I have argued that lack of health agency broadens the range of duties correlating to the right to health. However, lack of autonomy does not imply a risk-free environment. Interests in freedom and health should be assessed within their contexts. Furthermore, a less restrictive environment may benefit the health of individual great apes in line with research into the relation between risky play and health of human children.

5.4 Anything beyond the medical?

Instead of feeling concerned about any unwanted paternalism, one might consider the fact that a broad account of the right to health, attuned to all possible social determinants of health, may be problematic for the heftiness of the demands it imposes:

The mistake is to identify the right to health with all the rights that serve our interest in health. Many, if not all, human rights protect our interest in health because they protect a range of interests that includes health as one among others. However, a human right is picked out not by the profile of interests it serves but rather by reference to the obligations it creates. The right to health is best interpreted as concerned primarily with obligations regarding medical services and public health measures. (Tasioulas & Vayena, 2015: 43)

The concern voiced by the authors appears to be that the right to health becomes the center of gravity with respect to other rights. The right to education, for example, should not be explained in terms of a right to health, even if there is a significant overlap with health interests. Whereas education could be an important social determinant of health, when for instance providing knowledge and developing one's health agency, the right to education does not only exist to serve one's interests in health.

Needless to say, health is not the only thing that matters. Perhaps the reason for Tasioulas and Vayena to wish to restrict the range of duties is that if the right to health would encompass other rights (e.g., the right to education) the interests in education that do not overlap with the interests in health may then be obfuscated. In other words, something may get lost in the course of creating an ever-expanding right to health.

However, something may also go to waste in the process of neatly separating rights from each other. For example, why would it be problematic for the right to health to instill a duty to promote health agency of humans by means of education? Indeed, the right to education does not exist solely to serve one's interest in health. The right to health may however impose certain demands in terms of the content of education that might not arise if these rights would be kept in separate boxes. If the right to health and the right to education were to remain distinct then the importance of education in terms of health agency could remain unnoticed.

Thus, narrowing the scope of duties for fear of the right to health becoming the sole overarching right could have negative consequences in itself. Tasioulas and Vayena argue that the right to health is distinctive considering the obligations it imposes rather than the interests it protects. It is nonetheless by no means clear, especially considering their adherence to an interests-based theory of moral rights, why we should accept this claim or their conclusion that “The right to health is best interpreted as concerned primarily with obligations regarding medical services and public health measures” (Tasioulas & Vayena 2015: 43). They owe us an explanation as to why specifically the right to health is conceptually linked to this domain of duties.

The position Tasioulas and Vayena hold with regard to the nature of the right to health is perhaps more pragmatic. In addition to their stance pertaining to the distinctiveness of rights and their corresponding duties, they also voice a very practical concern:

If we follow the inclusive account to the right to health, we will face an unnecessarily Herculean task in our attempts to assess the extent to which the right to health is being fulfilled worldwide. This task will be so huge because it will require keeping track of the extent to which all rights that affect health are being met. Progress towards such a massively sprawling goal is challenging to monitor and extremely difficult to achieve, and will inevitably breed uncertainty, frustration, and despair. If we wish to set ourselves a more meaningful and manageable, but still demanding, task then we should adopt the more constrained interpretation of the right to health. (Tasioulas & Vayena 2015: 43)

Therefore, even if we would be able to flesh out a range of duties corresponding to the right to health reaching beyond the domain of medical services and public health measures and do so in a manner that seamlessly integrates with other rights, then the hard work has just begun. Apparently, this troubles Tasioulas and Vayena more than the issue of keeping rights separate in order to protect their distinctive purpose.

Identifying duties would indeed be a Herculean task. However, I do not see why arduous work would restrict the range of duties. When feasibility is not an issue, why should we distinguish between various sorts of duties if they all contribute to safeguarding health?

Furthermore, measures aimed at the social determinants of health are perhaps not always more challenging than medical services and public health measures.

We are now left with the conclusion that the range of duties imposed by the right to health remains rather unspecified. It remains unclear why the right to health is distinctive in the duties it imposes rather than the interests it serves. Moreover, it is important to take the determinants of health more seriously hereby including not only those related to socio-economic factors but also the underlying ecological determinants of health. A right to health whenever neatly disconnected from ecological considerations would overlook the ways in which humans and other animals intricately form parts of ecosystems, while depending upon these ecological processes for their health. Such a perspective on the right to health would leave out a necessary condition of individual health. Based on the above argumentation, it is unclear why the right to health should not include ecological determinants of health if these contribute substantially to health. The question now rises: to what extent should the right to health include ecological determinants of health?

5.5 Ecological and interspecies determinants

As is apparent from the discussion presented in chapter 1, the idea of One Health with its emphasis on interdependence between humans, animals and environment challenges a conception of public health that draws the line of relevance at the borders of human society. Alternatively, humans, just as other animals, form an inextricable part of ecological processes, which entails that health policy and understandings of health need to attend to the ecological conditions that support health (Coutts et al. 2014; Lang & Rayner 2012).

The relation between individual health and ecological processes will generally be rather complex and indirect. As to climate change, for example, the impact of human activity on the natural environment is significant and far beyond any reasonable scientific doubt.⁷⁵ Of course, the effects of climate change will reach beyond the right to health and hugely perturb human societies. The upsurge of inhospitable climates including rising sea levels, extremely high temperatures and droughts imposes a vast threat to human health (Caney 2010). These touches upon the ecological conditions of human health. We rely on ecosystem services and the natural environment in general to safeguard our health (McMichael 2009).

⁷⁵ http://www.ipcc.ch/publications_and_data/publications_ipcc_first_assessment_1990_wg1.shtml [accessed 20 March 2017].

As I have argued above, the interests it protects rather than certain specific duties determine the right to health. If we understand this right in terms of protection against standard threats, then we should also include those threats that arise at the level of ecological determinants. Of course, a great overlap with other rights will now be encountered, such as the right to food and environmental rights, many of which make sense precisely because of their relevance to health.

If ecological conditions are important and necessary to support individual health, they significantly implicate our interactions with the rest of the natural world. Moreover, if a certain level of ecological functioning is presupposed as part of the protection against standard threats to health, one may hold duties in order to secure the ecological conditions of others irrespective of one's role in bringing about the disadvantaged situation. In any case, acknowledging the moral importance and relevance of the ecological determinants of health requires a further specification of the relation between individual health and ecological processes. If an ecological outlook on health proves invaluable, what does this imply for the individual right to health?

The relation between individual health and ecology has been described in part by the notion of "ecological space" (Hayward 2013b). Ecological space reflects the measure of natural resources and ecological processes individuals require for living their lives. This understanding goes beyond any specific environment individuals happen to find themselves in. The relation between the ecological processes and one's individual health is much more abstract: "the concept of ecological space allows us to picture the world in terms that are not captured by purely physical or geographical descriptions of space. The relevant space is defined more critically by function than by physical dimension or magnitude" (Hayward 2013b: 234). For their health, individuals depend not only on their immediate environment, but also on more complex ecological processes more peripheral. Ecological space captures this ecological interdependency in descriptive terms.

Ecological space also involves a metric of justice, by drawing out the necessary biophysical conditions to live a minimal decent human life. In accessing ecological space as a matter of justice (a) we are confronted with the "finitude of the earth's aggregate biophysical capacity" (Hayward 2013b: 236). If there was an abundance of biophysical capacity, then considerations of distributive justice would not be so urgent. However, the availability of

biophysical capacity is significantly restricted, thus prompting questions concerning a morally right and fair distribution of such resources.

In other words, if humans hold a right to health, and health is the contingent result rather than isolated from socio-ecological interdependency, then the right to health demands that we pay attention to the underlying factors that significantly shape and determine health outcomes and acknowledge duties to secure protection against standard threats to health.

The above is all the more relevant when considering the reason (b) pertaining to the fact that “some humans make vastly more use of the planet’s ecological space than others do” (Hayward 2013b: 236). One’s ecological space is vulnerable to the irresponsible and unjustified utilization of that space by others. For example, individual A consumes much more ecological space than is necessary when leading a decent life, to the extent that individual B is deprived of the natural means to lead a decent life. If there is enough ecological space for both, then it is unfair for individual A to appropriate more space than required to individual B’s disadvantage. Access to sufficient ecological space is a necessary condition to protect basic interests of humans. If the concept of human rights in terms of protecting at least the ability to lead a decent life is taken seriously, the right to ecological space is a demand of justice, and

the basics of justice ... include a universal right of access to the necessary means for a decent life. I take it as axiomatic that there is this fundamental right: for if there were not, then the very idea of human rights would be hollow; and if we could not rely conceptually and normatively on the idea of human rights as a touchstone for ideas of justice, I doubt we could talk both cogently and persuasively about global justice at all. As a material premise, I take it that the means of life necessarily and importantly include biophysical resources; biophysical resources, compendiously, can be referred to by the term “ecological space.” From these premises it follows that a right of each human to a sufficient allocation of ecological space is a human right. (Hayward 2009: 293)

Therefore, each and every individual, as a matter of justice, should have access to sufficient ecological space in order to live a decent life: a distinct right to ecological space. The demands for a right to ecological space and for the right to health substantially overlap: access

to sufficient ecological space cannot be separated from a complete overview of health and its vulnerabilities. Instead of neatly demarcating health from environment, this overlap should usher us to take seriously the inextricability of health and environment.

My aim now is to further articulate how the concept of ecological space relates to the right to health, and in particular how this concept relates to the right to health of great apes. Of course, just as humans depend upon ecological processes, so do great apes. Ecological space, as a descriptive term, is by no means limited to humans only. This term captures the individual dependency on ecological processes irrespective of species membership. What can be said about its normative implications?

Hayward notes that while his focus lies with the human right to ecological space, the exclusion of animals is done out of pragmatic rather than principled reasons. As argued in the present thesis, sufficiently weighty interests can generate the protection of rights. Are the interests of great apes in ecological space of sufficient weight to generate a moral right? Great apes not only share numerous interests in ecological space with humans, they also depend on ecological processes for their health and well-being just as humans do. I have argued that understanding the right to health in terms of protection against standard threats should also include threats of an ecological nature. We should do so because of the importance of the interests in health. Whether a threat to health can be addressed at the ecological or medical level does not make a moral difference if one accepts the understanding of standard threats as Wolff proposes. As I have stated above, threats should be both serious and standard, which involves certain normative presuppositions regarding the possibilities of current (medical) technology and policy to either making treatment available or to averting threats to health in other ways. If one includes social determinants of health as relevant to the right to health, I do not see why ecological determinants of health should be excluded. If threats to health are indeed ecological and the above-mentioned (serious and standard) conditions apply, then the right to health in principle requires protection against these threats.

The negative impact of climate change presents us with a telling example of an ecological threat to health. Which other ecological threats to health might warrant protection by rights? In addition to the direct threats to great apes in terms of bush meat hunting and wildlife trade, human encroachment and impact on habitats (ranging from extraction of resources to destruction) could impose all kinds of threats to the health of great apes in the wild. Specific

threats include food shortage (Hockings et al. 2015), stress-induced immune-deficiency due to human interference and/or hierarchical instability (Williamson & Feistner 2011), loss of genetic diversity (Krief et al. 2014) and transmission of human diseases to great apes (Köndgen et al. 2008).

These examples serve to reveal another aspect of ecological space that Hayward does not discuss in detail. Whereas the concept of ecological space appears to be primarily engaged with ecological conditions in terms of quantity of biophysical resources, there is also a qualitative aspect to ecological space. It is not only a matter of having enough, but also having something good enough. Ecological processes support individual health e.g., by providing water, air and food. However, the configuration of landscapes and socio-ecological interactions can also be assessed in terms of risks to health. For example, habitat destruction does not only involve a direct harm to the animals depending upon it and imply a far greater use of natural resources by some to the disadvantage to others. It also increases the risk of emergence of infectious disease by decreasing biodiversity and increasing human-wildlife interaction. Ecological space should include not only biophysical resources but also require the kinds of socio-ecological interactions that minimize the risks of disease emergence. The interplay between socio-ecological interactions and disease emergence illustrates the need for acknowledging ecological determinants of health beyond biophysical resources: interspecies determinants of health. When left unattended, these determinants may give rise to “unhealthy landscapes” (Patz et al. 2004); a metaphor that reflects the level of health threats inherent to specific ways of land use and configurations of the human-animal interface.

Identifying infectious diseases as standard threats to health is only part of the entire story. Their emergence cannot be disconnected from ecological drivers. Ecological interdependency is relevant to health, not only because of ecological services (e.g., clean water, air) but also because certain configurations of socio-ecological interactions can lead to higher chances of infectious disease emergence. A right to health should not be disconnected from these considerations except for cases where the aim is to evaluate certain well-defined health needs that do not require a detailed discussion of underlying ecological conditions. Hence, one could still determine whether individual A should be entitled to a specific medical treatment procedure without the involvement of ecologists. However, protection against standard threats to health should include ecological and interspecies determinants of health, which

respectively entail the biophysical resources necessary for health and the requirement that socio-ecological interactions themselves do not inherently involve unacceptable levels of risk.

How does ecologizing the right to health – emphasizing ecological determinants of health – relate to recent proposals of recognizing animal habitat rights (cf. Cooke 2017)? As individual animals have significant interests in their habitat with regard to their own health and well-being, Cooke argues that animals have habitat rights. How does this differ from an emphasis on ecological determinants of health? Before discussing this view in more detail (see 6.3) I would for now like to point out that the right to habitat differs somewhat from the proposal to safeguard access to ecological space. While both accounts emphasize ecological determinants of health, ecological space is not restricted to habitat only, as it portrays a measure of biophysical capacity that every individual requires in order to lead a decent life. Ecological space thus also demands that attention is paid to biophysical processes unfolding beyond one's own habitat.

Socio-ecological factors encountered outside of one's habitat may be highly relevant in terms of health. Securing habitats might prove insufficient in the face of, for example, climate change. Even if habitats are protected, the spillover effects of human activity (e.g., climate change, risks of transmitting infectious diseases, residue materials etc.) may impose standard threats to health. This is the reason why, in addition to securing habitats, we must evaluate encroaching socio-ecological factors too (Donaldson & Kymlicka 2011). Therefore, while habitats are relevant when providing the necessary conditions for health and well-being, they do not capture each and every ecological and interspecies determinant of health. As great apes are subject to the ever-increasing effects of human activity on their environment (Hockings et al. 2015) an obligation is placed on humans to investigate the effects of their activities in order to prevent, as much as is reasonably possible, any serious human-induced health threats.

5.6 Concluding remarks

In the present chapter, Wolff's rendition of the right to health in terms of protection against standard threats has provided a starting point to develop it further against the background of ecological and interspecies interdependence. Before doing so, I have explored two possible objections to his account to arrive at the conclusion they do not succeed. However, Wolff's account should also include ecological determinants of health. In order to achieve this goal,

the concept of ecological space should be taken into account (Hayward 2013b). In relation to the right to health, ecological space can be further developed by means of looking into (a) the amount of ecological space every individual requires (ecological determinants) and (b) the level of threat arising from certain socio-ecological configurations (interspecies determinants).

6. The right to health in the wild

If one holds sufficient interests in health to the effect of imposing duties upon others, then a *prima facie* right to health is generated. If, however, interests do determine who holds a right, what does this imply as to the scope of the right and its implications for great apes positioned outside intermixed human-animal societies? Is the right to health indeed cosmopolitan to the extent that great apes active outside human society are also included? To begin with, do we have any positive obligations towards animals living in the wild? And, if arguments denying such positive obligations fail, what does the right to health comprise specifically in the context of the wild?

6.1 Do we owe anything to animals in the wild?

Reasons for restricting obligations to a particular group are often controversial. Where once, in Ancient Greece, the scope of justice was limited to wealthy men (Lane 2018), one has witnessed a relatively swift expansion especially during the 20th century, hereby including humanity in its entirety as is reflected in the concept of human rights. Nevertheless, the reasons for restricting the scope of justice with regard to humans do not appear to be sufficiently robust. Does the tentative cosmopolitanism formulated at the end of chapter 4 (see 4.6) provide us with reasons to widen the scope in order to include animals wherever they are found?

Do we owe anything to animals living in the wild at all? Certain researchers strongly reject any human interference in nature or the lives of wild animals. According to this viewpoint, nature is to be preserved in its pristine state, whereby any form of human management including the numerous conservation efforts are ruled out too (Minteer & Miller 2011). This viewpoint occasionally dovetails with the opinion that it is wrong to interfere with evolutionary processes, as if they represent matters of moral value (Torres 2015). These objections to interference in nature can however not be sustained within an approach that sets off from the claim that sentient beings have a moral status (DeGrazia 1996; Torres 2015). Interfering in natural processes can indirectly violate the interests of great apes, for example, by means of the fragmentation of their habitat. However, in other instances, one can positively affect the interests of these apes through interference. What if one could drain a swamp with the outcome being that a specific group of chimpanzees would suffer less from vector-borne diseases? In addition to the question whether one has the moral imperative to

take such an action, would it be wrongful towards the natural environment, in this case, the swamp? My point of view is: (a) we only have indirect duties towards non-sentient entities and collectives and (b) there is nothing morally wrong with draining swamps provided that the sole impact of this action will benefit the health of chimpanzees.

A very strong argument against human intervention in nature is human fallibility. Multifariously diverse ethicists and political theorists all underline the importance of this argument (Singer 2011; Donaldson & Kymlicka 2011; Palmer 2010). The objection of human fallibility captures the epistemic uncertainty associated with ecological interference but also the more general normative principle of refraining from actions that make matters worse. These considerations put a hold on interventionist ambitions but, importantly and in principle, do not rule it out. Indeed, the argument supports “fallibility-constrained interventionism” rather than non-intervention: based on the interests of individual animals “intervention in nature is desirable but should be constrained by our ignorance of the inner workings of ecosystems” (Johannsen 2016: 333). In other words, because the interests of individual animals living in the wild demand our moral consideration, we may well be duty bound to investigate whether it would be possible to develop ways to intervene to their benefit without causing ecological upheaval (Fink 2005).

6.2 The right to be left alone: individual flourishing?

We are apparently left without a principled argument against interference. The argument stemming from fallibility is pragmatic and in principle does not rule out human intervention. However, other principled arguments have been suggested. For example, instead of arguing it is wrong to interfere with nature, one can opine that interfering with the lives of animals living in the wild wrongfully disturbs their *flourishing*. Perhaps “what we need to acknowledge is that the deer is a wild animal and, as such, the sort of creature whose flourishing is generally thought incompatible with widespread human intervention. Deer, that is, do flourish qua deer without human protection from nonhuman predators” (Everett 2001: 54). Jennifer Everett argues here that (a) the flourishing of an individual is linked to a specific conception of what flourishing entails for a certain species and (b) this conception does not allow for “widespread human intervention”. Do these observations provide us with a compelling argument to refrain from any human meddling with the lives of animals in the wild?

Why would the conception of flourishing qua one's species membership be action-guiding? Why does behaving in ways characteristic of its conspecifics in the absence of human interference matter to the individual (Cochrane 2013a; Ladwig 2015)? Everett's reasoning steers close to the "appeal to nature fallacy," which amounts to an unexplained leap from how things are or were in nature (deer living out their lives undisturbed by human meddling) to how they should be. Understanding flourishing as a prohibition on any interference "runs dangerously close to sanctifying natural processes as inherently morally good or benign" (Donaldson & Kymlicka 2011: 165). It is unclear why behavior encountered in nature also dictates moral prescriptions. Arguing that flourishing as a concept also includes the horror of being devoured alive is controversial (Hadley 2006: 449). It is not in the interest of that particular individual. In addition, an individual should be the one to, as much as is reasonably possible, determine what lies in his or her personal interest. Accounts of flourishing that rule out human intervention risks doing so at the disadvantage of the interests of individual animals.

It is thus far from clear that flourishing prohibits human intervention. When evaluating if the interests of animals living in the wild should indeed enter into our moral deliberations, we must also address the question: to what extent does context matter? Perhaps flourishing means something else to animals living amongst humans when compared to what it entails if pertaining to those living rather independently from human affairs?

6.3 The right to be left alone: collective flourishing?

What if individual flourishing is inseparable from collective flourishing? According to Donaldson and Kymlicka, animals living in the wild are entitled to a sovereignty based on their collective interests as a community. The sovereignty of these animals regulates a fair interaction with the human sovereign communities, prohibiting any systematic interference. As they put it, "We ought not to intervene in the internal workings of wild animal communities (e.g., predation, food cycles) in ways that undermine their autonomy, effectively placing them under permanent and systematic human management" (Donaldson & Kymlicka 2011: 187). Whereas a certain level of paternalism is inevitable when we interact with domesticated animals, it is argued that wild animals are categorically different as they have to fend for themselves and generally speaking are able to do so (Donaldson & Kymlicka 2011: 177). On the other hand, domesticated animals have been made fully dependent on human care and supervision, implying obligations to be fulfilled by humans.

Before looking further into the argumentation Donaldson and Kymlicka present we must note that they develop the following two kinds of argumentative strands against the right to health as an entitlement for great apes in the wild. Both points of view entail that:

(a) the right to health (more precisely on their account, the right to healthcare) follows from one's membership of a mixed human-animal society. The positive argument for this right to is limited to animals which exclusively belong to such a community. Great apes in the wild, as well as those perhaps more accurately described as liminal, lack membership and therefore a right to health. This group-based differentiation of the right to health is unconvincing (see 4.5), as it understands the right to health as something that has to be earned either by means of complying with social norms or by the mere contingency of being a member of a particular group. Health represents a standard that lies in the interests of all individuals, irrespective of their specific environment. A right to health is grounded to the extent that these interests are sufficiently important to impose duties on others.

b) great apes in the wild are members of a multispecies sovereign community, a political structure that imposes limitations on human interference. Therefore, even if one rejects membership as well as cooperation as being necessary conditions for holding a right to health, animals in the wild could indeed categorically differ from domesticated animals in terms of our moral obligations towards them. The moral purpose of sovereignty is to "protects interests in maintaining valued forms of social organization tied to a particular territory against the threat of conquest, colonization, displacement and alien rule" (Donaldson & Kymlicka 2013: 151). Sovereignty involves both a territorial claim and the right to lead an autonomous life. Before considering the criticisms raised against the concept of wildlife sovereignty, we need to unpack it a little bit further.

Starting with the territorial claim, Donaldson and Kymlicka (2011: 170) opine that animals have a rightful claim to their environment; it is their space, which humans have no right to encroach. In doing so, they also reject a stewardship model, including those best described as benign alien rule. Wildlife habitats across the globe are under threat of the ever-expanding human activities, rendering stewardship too contingent on whether individual humans wish to protect animals in the wild and their habitat. The stewardship model simply does not provide a robust protection of wildlife habitat.

Does this position presuppose the concept of sovereignty? In recognition of the uncertain and/or contingent benefits of stewardship, other theorists (e.g., Hadley 2015) have argued for animal property rights. Rather than relying on the goodwill of humans in managing wildlife habitats, property rights fend off any harmful human interference to begin with. However, certain specifics pertaining to recognizing a property right cast a shadow on its potential for animals living in the wild. Full property rights ordinarily include the power to either sell one's property or to waive one's legal ownership (Cooke 2017). To what extent do animals either have such a power or an interest in full ownership? Perhaps,

the interests non-human animals have in their habitats can be met by ensuring they have use of the habitat rather than having powers to sell their property. This means that full property rights are not necessary to protect habitats, and that mere usufructuary rights paradoxically represent a stronger rights configuration for animals. Furthermore, provided they are unharmed by it, these usufructuary rights can be shared with others, allowing humans and non-humans to live together in mutually beneficial ways and potentially generating revenue streams for animal trustees to manage habitats with. (Cooke 2017: 58)

In line with Donaldson and Kymlicka, Cooke takes issue with stewardship-models as these fail to provide any robust protection of the interests of animals in the wild. Stewardship is subject to interpretation, ranging from non-intervention to substantial human presence. However, instead of sovereignty, Cooke identifies usufructuary rights as a means to provide the required protection. Animals do not have rights to any habitats irrespective of whether it lies in their interests but exactly because of the way the environment supports these (basic) interests. The rights claim is generated in terms of the utility of the environment for the animals which facilitates human presence as long as the interests of animals do not unjustifiably come into conflict. Such usufructuary rights, however, have their weak spots when compared to sovereignty, because whereas

states have jurisdictional power to alter property rights within their territory, they are able to strip animals of any property rights they have gained. Animals are uniquely vulnerable to injustice because they have no political voice of their own (nor the possibility of one). Non-human animals rely upon humans to speak up for them, and it is thus easier to ignore or overlook their claims. In human cases, individuals or groups

can challenge the decisions of states and seek compensation for property that is compulsorily purchased or taken from them. However, the interest non-human animals have in their habitats cannot be compensated for in the same way since they depend upon it for survival or wellbeing. Unless non-human animals can be transplanted into a similar habitat with little or no loss to their wellbeing, the idea of restitution or compensation is meaningless. Non-human animals are therefore at greater risk of rights violations in respect of their property than human owners. (Cooke 2017: 59)

Such precariousness can tip the scale in favor of a robust account of wildlife sovereignty. However, Cooke's suggestion of usufructuary rights is in part a response to controversial presuppositions encountered in the concept of sovereignty. Cooke takes issue with the reference to autonomy in particular. The majority, if not all animals, lack this capacity if autonomy not only involves the ability for second-order reflection but also willfully shaping one's life according to one's considered values and beliefs.

Usufructuary rights can be buttressed without relying on strong concepts of autonomy. Cooke suggests establishing remedial rights to secession whenever serious violations of usufructuary rights occur. Hereby secession does not presuppose autonomy. Animals cannot decide to secede, rendering primary secession less compelling. However, humans can do so by proxy if the usufructuary rights of animals have been, or still are, under a serious threat of being violated entailing secondary secession. Sovereignty thus appears to be either unnecessary or the most plausible grounds for securing habitat rights. The question now rises: does Cooke's proposal cause sovereignty to be entirely redundant?

Donaldson and Kymlicka applaud the concept of animal property rights because of its recognition of the importance of habitat, but nonetheless criticize the concept for permitting animal communities to be vulnerable to other kinds of influences. It is precisely Cooke's willingness to allow for shared as well as multispecies landscapes that triggers their concern, as it echoes the willingness of colonial authorities to recognize the property rights of indigenous people. While acknowledging the property rights for indigenous peoples, Donaldson and Kymlicka (2011: 178) point out that "Europeans imposed their own laws, culture, and language on indigenous peoples". Social dynamics of incoming cultural settings can pose a threat to the collective autonomy of the native communities. More, it appears, than mere legal ownership of land or habitat is required. Thus, whereas habitat rights may

successfully capture the territorial or geographical dimension of sovereignty, sovereignty also protects valued forms of social organization in addition to any territorial claims. Human meddling with the social organization of wild animal communities is prohibited as it undermines their autonomy and liberty not only at individual but also at collective levels.

Is this argument able to hold its ground? Several interest-based theorists (Cooke 2017; Cochrane 2013a; Ladwig 2015) oppose this assertion. For example, if interests must guide our moral actions, it remains unclear how sovereignty as a reflection of collective flourishing is relevant to individuals, which is especially evident when collective flourishing occurs to then disadvantage individual interests. Or as Cochrane (2013a: 138) puts it, “at the very least, it is extremely hard to make sense of the idea that those wild animals who suffer terribly and face death directly as a result of the current conditions of their community also have an interest in the preservation of that community in its current form”. Just as individual animals do not have interests in flourishing in terms of being eaten alive, they do not appear to have interests in sovereignty and throwing overboard their own individual interests.

Problems therefore arise when collective thriving conflicts with individual flourishing. It is a win-win scenario if, for example, a football team is highly successful while at the same time all the players and staff members prosper. However, if the success of the team leads to a significant disadvantage of one or more individuals, whereby certain changes to the organization would solve issues, the latter are in the interest of the individual. Needless to say, this is not a perfect analogy to animal communities living in the wild. It does however prompt the question why Donaldson and Kymlicka are so concerned about leaving the inner workings of animal communities intact even at the disadvantage of individuals. Sovereignty reflects the membership of a wild animal community and a flourishing collective. The underlying justification of wild animal sovereignty involves the claim that animals are entitled to their autonomy and liberty. We should respect the autonomy and liberty of wild animals, which is supported at the collective level in terms of sovereignty. If we were to systematically interfere in the inner workings of animal communities, we would ultimately infringe upon their liberty and autonomy. Following other interest-based theorists, we have already established that these notions do not gain much traction not only with regard to the majority but perhaps also to all non-human animals (Cooke 2017). The case for wild animal sovereignty is hereby left in peril. The fact that great apes have interests in their habitat beyond positively contributing to their health and well-being is far from being clear-cut. Cooke’s proposal on usufructuary

rights protect these interests.⁷⁶ In other words, the added value of sovereignty for great apes is not well-defined.

Moreover, sovereignty rests on assumptions concerning the capacities and interests of great apes that are controversial and pierced by scientific uncertainty. Whether or not great apes are autonomous in the sense of second-order reflection remains controversial (see 2.3). Taken together, there appears insufficient grounds to acknowledge the existence of great ape sovereignty. Opining that great apes do have rightful claims to self-determination, I argue that these claims should be understood in terms of agency and not of autonomy. If sovereignty is linked to the latter, which I assume is indeed the case, then sovereignty does not gain sufficient traction with regard to non-autonomous animals, including (most) great apes (cf. Ladwig 2015; Cooke 2017). Finally, it may be concluded that, although fallibility and feasibility both impose significant constraints, the arguments against intervention have not survived. As a result, a cosmopolitan perspective remains on the table. We must now assess the implications for the right to health.

6.4 Considering the right to health in the wild

The right to health for animals, let alone for those in the wild, has not received much attention yet. This is surprising, considering the special status of human health in debates of justice (e.g. Daniels 2007; Wolff 2012b; Venkatapuram 2013). To a certain degree health does emerge in recent work presented by theorists dealing with the entitlements of animals. Nussbaum (2006), for example, enlists a health capability on a list of capabilities without describing details regarding what this would entail for animals in specific contexts. Donaldson and Kymlicka (2011) both understand the right to health care to be a citizenship right to which domesticated animals as members of society should also be entitled. The corresponding duties should be aligned with the human health justice debate. To date, their account provides the most detailed discussion on an animal right to health care, hereby providing an important reference point for further discussion.

The citizenship right to health care as envisioned by Donaldson and Kymlicka has attracted some criticism. Cochrane (2013a: 134) objects against a group-differentiated understanding of

⁷⁶ Especially in conjunction with the right to ecological space, which (as argued, see 5.5) introduces relevant socio-ecological factors from outside the habitat, too. Habitat and biophysical functioning both matter because of the way they contribute to the interests of great apes.

the right to health-care, because “given the powerful interest that all sentient animals have in being healthy, it is certainly plausible that the right to health is at least a *prima facie* right enjoyed by them all”. In disagreement with restricting access to health care to domesticated animals only and hinting at a cosmopolitan alternative instead, he assumes that “at least in some situations, wild animals can and ought to be granted a concrete right to healthcare” (Cochrane 2013a: 134). Going even further, he claims that animals in the wild (as well as liminal animals) may be entitled to a larger share of public resources than their domesticated counterparts, as the latter have guardians to take care of them. This philosophical exchange on the right to health care provides us with an interesting starting point to further engage with the right to health of wild animals. After discussing Donaldson’s and Kymlicka’s reply to the objections leveled by Cochrane I will then add my own considerations.

Donaldson and Kymlicka argue that Cochrane’s above-described objection is first of all speciesist if he does not apply the same line of reasoning to human children too. Donaldson and Kymlicka distinguish between the individual right to health care and the issue of allocating its corresponding duties. Indeed, parental obligations cannot be overlooked. Parents nonetheless only bear a number of duties which correspond to the right to health care. The health care of orphaned children will form a societal responsibility. Why, if collective responsibility kicks in for children without parents and/or guardians, “should domesticated animals be abandoned to the vagaries of individual guardians? Why should humans have access to the cooperative scheme of public health care, while their domesticated animals are left out?” (Donaldson & Kymlicka 2013: 149).

Indeed, Cochrane places too much emphasis on the responsibilities imposed upon the guardian of the individual animal. This is the reason why he also misses out on the broader implications pertaining to the right to health and the corresponding duties. The issue of developing interspecies health research strategies and health insurance schemes remains unaddressed. In addition to the duties of guardians, the right to health will significantly affect health institutions.

Nonetheless, as domesticated animals do have guardians, the latter may very well pay the lion’s share of costs of providing health care to the animals under their supervision. Therefore, if wild animals do have *prima facie* right to health care based on their interests, Cochrane is correct in arguing that relatively more public funding should be made available

for animals that live largely independent from human affairs. Why not start from the health interests of animals in the wild and allocate a portion of health funding towards their needs?

Donaldson and Kymlicka (2013: 150) address this criticism head-on, postulating that

we could only include wild animals in this scheme [medicare plan] if we trapped and caged and trained them not to engage in risky behaviours, regulated their food and movement, and forced them to undergo the appropriate check-ups and inoculations. All of these norms are a precondition for a viable scheme of health insurance for humans, and these preconditions are also in place to extend it to domesticated animals. But we could only include wild animals into such a scheme through radical abridgement of their individual freedom and collective sovereignty rights.

The above citation portrays the demands of right to health in rather absolute terms, exaggerating the extent of actions required as well as the impact on the individual animals in terms of their freedom.

Before discussing these concerns, we must address certain background assumptions. Are the conditions and the institutional framework Donaldson and Kymlicka presuppose necessary in order to support a right to health and its corresponding duties? We may think of other institutional settings for health policy. For example, nations could make funds available to carefully bolster any internationally coordinated health measures and policy aimed at the health of great apes living outside of mixed human-animal societies. Efforts to sustain the health of great apes in the wild often entirely depend on financial support comprising donations, rather than public resources or international assistance provided by wealthy countries. When merely considering a right to health care within current institutional settings and ways of financing health care, it is no surprise that only domesticated animals fit the description. The range of possibilities expands if these presuppositions are altered. Donaldson and Kymlicka do not consider this perspective which presents us with an alternative.

Let us now address the other concerns pointed at above. Donaldson and Kymlicka describe the right to health care as an all or nothing affair. If a right to health care for animals living in the wild is acknowledged, we will end up with trapping and caging individual creatures merely for the reason of bringing them up to a certain standard of health. Does it have to be

that way? Wolff's account of the right to health combined with my extrapolation of his research entails protection against standard threats to health, which are to a certain level contextual. Health policy should be attentive to the specific context of individuals, rather than merely project a standard onto each and every context. The right to health not necessarily requires the transformation of the lives of animals in the wild in order to completely match their domesticated counterparts. Instead, it demands not only the recognition of the health interests of individuals but also, an assessment of (a) the threats to health and (b) the degree of their susceptibility regarding reasonable measures within the specific contexts. This account need not entail animals being trapped and caged. Imposing the above-mentioned measures may however be advised in certain cases. Nonetheless the corresponding duties concerning a right to health could prove to be far less interventionist.

However, as duties corresponding to the right to health are contained in terms of feasibility, any such concrete right for animals living in the wild could become nonsensical. For example, knowledge pertaining to the health of individuals will form the starting point for any meaningful way to provide contents to a right to health. This process will involve health monitoring on a regular basis, which is no mean feat whenever animals in the wild are concerned. For numerous animal species living at a distance from human societies, these monitoring procedures will simply prove infeasible on any reasonable account. So before starting to take action based on the health interests of animals living relatively independent from humans, feasibility related concerns interrupt us. This outcome alone can indeed appear to disqualify a right to health for wild animals across the board, apart from safeguarding their ecological space.

The philosophical reasons for denying a concrete health right to wild animals differ but appear not to result in much difference in practice. Recall the assertion made by Cochrane that "at least in some situations, wild animals can and ought to be granted a concrete right to healthcare" (2013a: 134) Do these cases turn out to be exceptions to the rule? With regard to wild animals, it is perhaps fair to remark that the theoretical disagreement between Donaldson and Kymlicka on the one side and Cochrane on the other ultimately turn into consensus as far as practical matters are concerned.

As Cochrane merely scratches the surface of what a right to health could entail, we need to explore this area more thoroughly in order to discern its practical import. When, we could ask,

in “at least in some situations, wild animals can and ought to be granted a concrete right to healthcare” (Cochrane 2013a: 134), which kind of conditions would have to apply to render feasibility not insurmountable? One factor consists of geographical proximity. If animals live near humans, it generally is more feasible to monitor their health or to intervene if necessary. Many animals living on the borders of human societies can be monitored and/or managed in various ways.⁷⁷ The size of an animal is relevant, too, as large mammals can often be easier observed than smaller species. Whether animals are approachable is another significant factor. In addition, the kind of environment may also affect the extent to which health monitoring is feasible. Dense tropical forests may forward a greater challenge when compared with wide-open landscapes. Taken together, relatively large animals with no fear of humans while residing in the vicinity of human societies established in accessible environments, may provide a situation in which monitoring the health of these creatures may be feasible.

This also places a certain level of pressure on the concept of delineating the categories of animals. A continuum can be observed between entirely domesticated and entirely wild creatures whereby those positioned just outside of a society perhaps represent the strongest challenge to restrictions of obligations to group-members only. Although Donaldson and Kymlicka attempt to make sense of our obligations by dividing animals into three groups (to wit, domesticated, liminal and wild) they also realize that many creatures traverse the boundaries between these groups. This acknowledgement requires, as Donaldson and Kymlicka argue, a case-by-case evaluation of our obligations towards such in-between-groups-animals. I hold the view that with regard to these animals – especially if the above-mentioned factors apply – the right to health as a concrete right also becomes more compelling. In order to further explore this issue, and further contrast the three views (as held by Cochrane, Donaldson and Kymlicka and the present author) we will now look closer at Donaldson’s and Kymlicka’s discussion of obligations pertaining to the Assateague horses, which will later be brought to bear on obligations concerning great apes.

⁷⁷ This procedure prompts the question: when can animals be considered wild? Palmer (2010: 85) distinguishes between three forms of wildness whereby an animal (a) can be wild in terms of its conduct (b) can be wild as a result of its habitat i.e., locational and (c) that he or she is not influenced in a certain way by means of a process of domestication. It is herewith implied that animals may be wild in various degrees depending on how we interpret the adjective “wild”. On the one hand, an animal may be entirely wild in behavioral terms but live in the midst of human society e.g., in a zoo. On the other hand, animals may live near human dwellings resulting in their not being entirely wild in terms of either behavior or location.

6.5 Freedom and health: the Assateague horses

Donaldson and Kymlicka (2016b) discuss the situation of the horses populating Assateague Island. They focus on horses on its northern part, which belongs to the state of Maryland (USA). These feral horses, descendants from formerly domesticated horses now reintroduced to the wild, lead their lives in a relatively unrestrained manner and share their habitat with humans who visit this island for recreational purposes. Educating the public on visitation rules, which include cautious driving and observing a minimum distance from the horses, limits the level of disturbance. Donaldson and Kymlicka argue: mainly because of ecological constraints (e.g., limited carrying capacity, interests of other animals depending on the ecosystem) humans should continue to be involved in the lives of those feral horses. Without any human management, the population will outgrow the available ecological conditions, not only to the disadvantage of these horses but also disturbing the ecosystems and all those who depend on it. In order to manage the population, mares that have given birth once are darted with a contraceptive. Donaldson and Kymlicka indicate that euthanasia is performed now and again. However, the exact conditions for this intervention and how often it takes place remain unclear. Veterinary interventions are thus limited to population management by means of contraceptive measures and, on occasion, euthanasia.

In making their case for respecting animal agency, Donaldson and Kymlicka do not propose any changes to the current veterinary involvement with the Assateague horses. Although contraception limits the ability to reproduce, mares are allowed to give birth to a single foal. Implementing this contraceptive strategy has led to better health and longer lifespans of the mares (Zimmerman et al. 2006). Donaldson and Kymlicka do not further discuss the issue of euthanasia other than mentioning it only occurs when a horse is “suffering a painful decline/death” (2016b: 234).

Is this indeed all that is required in terms of veterinary management? At the very least, a number of further questions need to be asked. First of all, it remains unclear to which level any up-to-date knowledge exists concerning the health of individual horses. Do park officials monitor them on a regular basis? To what extent do horses suffer from ill health? It would also be relevant to learn more about the euthanized horses. Which conditions did they suffer from? Could veterinary treatment in an earlier stage have prevented the need for euthanasia? Did visiting tourists or park officials spot these animals? A significant difference exists between, on the one hand, responding to suffering one is confronted with by chance and, on

the other, a permanent policy imposed in order to protect individual health hereby reducing suffering as much as reasonably possible. Donaldson and Kymlicka do not pose these questions nor do they address the issue of tourism other than noting the possibility of conflict between humans and horses at campsites.

Needless to say, these questions and the lack of raising them do not necessarily undermine the overall approach to these animals that Donaldson and Kymlicka endorse. Perhaps this case was selected primarily for demonstrative purposes, rather than as a full discussion of the fate of the Assateague horses. However, the lack of engagement with these questions suggests a specific understanding of what it means to respect the agency of these horses. Such a view also falls in line with their support of dependent agency if pertaining to domesticated animals, and not to animals living outside of any mixed human-animal societies.

Donaldson and Kymlicka highlight the need to acknowledge domesticated animals as presumptive agents. Whereas we do not have to “liberate” these animals in the strict sense, severing all ties between humans and animals to then liberate them, we owe these animals positive duties allowing them to employ their agency.⁷⁸ Certain animals may choose to interact more with humans, whereas others might opt for less. These animals fully depend upon humans for opportunities to employ their agency, rendering them vulnerable to restrictions of their freedom motivated by interests other than their own. The idea of dependent agency prompts the question: has enough been done to allow animals to utilize their agency and to pursue the lives they truly desire?

Nonetheless, freedom in terms of opportunity to develop and explore one’s agency is not the only matter of importance. Domesticated animals should be able to employ their agency, but not at all costs; their choices should be scaffolded. This process entails a gradual exposure to new situations permitting these animals to develop their own agency within reasonably safe environments. Their freedom should not entail any significant risks to their own health. As long as certain basic interests (e.g., health) are reasonably protected, domesticated animals should not only be enabled but also free to make their own choices (see 3.5).

⁷⁸ Cochrane does not include this interest in freedom in his account. Based on the account of well-being as proposed in the present thesis, an interest-based theory of rights should acknowledge the right to freedom of opportunity.

How does this relate to our interactions with animals leading rather independent lives?

Donaldson and Kymlicka consider this a completely different situation. Wherever domesticated animals by nature are socialized into mixed human-animal societies, animals living outside of such communities

often actively avoid human contact and settlement; they resist captivity; they possess physical capacities or behavioral traits which are incompatible with human proximity; and they rely on highly specific ecological niches which cannot be manufactured under captive circumstances. Models of dependent agency that work in the case of domesticated animals are simply not applicable here. (Donaldson & Kymlicka 2016b: 156)

The same applies to the Assateague horses, as they avoid human contact and are highly dependent on their specific ecological surroundings. The question now rises: why exactly can “models of dependent agency” not be applied to these horses? Although there is nothing intrinsically wrong with being dependent, they argue that “it is wrong (i) to treat individuals as dependent in areas where they are capable of exercising meaningful autonomy (unjustified paternalism), and (ii) to induce dependency (as has been done through the history of domestication and selective breeding)” (Donaldson & Kymlicka 2013: 155). As Assateague horses are relatively independent, there is no need to foster their agency as in the case of domesticated animals. Assateague horses are largely judged to be capable of fending for themselves. Any further interference with their lives could perhaps entail “unjustified paternalism” and simultaneously induce dependency in a problematic way.

I agree with Donaldson and Kymlicka when they state that (a) these horses can fend for themselves in many ways and (b) respect for their agency should affect the extent of human interference. However, I disagree with their plea for agency when it comes to the disadvantage of individual health. Donaldson and Kymlicka start from the presumption that (a) these horses already have a sufficiently wide range of opportunities to decide on matters regarding their own lives and (b) a gradual shift to even more freedom would be desirable. However, to the extent that individuals are vulnerable to standard health threats (e.g., parasitic infestations, dental problems potentially leading to starvation, infected or otherwise complicated bodily injuries), I opine it is plausible to argue that a certain level restriction of

agency is permissible or even required.⁷⁹ Whereas the ability of the Assateague horses to decide on how they wish to live should be respected and facilitated, the fact that they cannot assess their own health interests provides a reason to restrict their freedom to some extent.

Moreover, in contrast to entirely wild animals, health monitoring may be feasible for the Assateague horses. These large mammals live close to humans in an environment that would be accessible for medical professionals to monitor the health of these horses from a certain distance. If it is indeed feasible to not only monitor individual health on a regular basis but also to provide treatment in indirect ways, or, if necessary, to anesthetize and treat individual horses when affected by a standard health threat, then based on the individual interests of the animal involved, there are now strong reasons to support such action.

Based on the view developed in the thesis, interventions are required in order to protect against standard health threats. Contrary to all Donaldson and Kymlicka hold in this respect, we need not necessarily capture and confine animals (albeit required in a number of cases). Monitoring individual health as well as targeted intervention in case of standard threats allows ample opportunity for animals to employ their agency. Thus, while this view acknowledges the importance of agency, it does so within certain limits, resulting in a qualified account of permissible and justified intervention.⁸⁰

Donaldson and Kymlicka understand the right to health care to imply a standardization of lives that are very different to begin with. Instead the right to health calls for a protection against standard health threats which can differ depending on the context. A number of differences are obvious, as for example, “no one in Iceland need worry about the threat of malaria, unlike sub-Saharan Africa” (Wolff 2012a: 222-3). This phenomenon is not limited to geographical aspects. Social as well as ecological factors determine the range of standard threats to health in a specific environment. Obesity entails a standard threat in developed countries, but not in most developing countries. Therefore, each context has certain threats. However, it is argued that contextual differences need not be overstated:

⁷⁹ Largely agreeing with published objections (see Horta 2013a) against views held by Donaldson and Kymlicka, my account focuses on the right to health and how it relates to agency.

⁸⁰ The way has been paved for the recognition of a wild animal’s right to health care, as tentatively indicated in Cochrane 2013a. My account builds upon Wolff’s research in order to present a more specific survey of what a right to health implies with regard to wild animals.

take HIV/AIDS. It is routinely treated now in the developed world, and those unable to find treatment may justly complain that they are not being protected from a standard serious threat. But in Swaziland, say ten years ago, almost no one received treatment. Should we say that, though very common, it was not a standard threat in the required sense? This seems to me the wrong conclusion. (Wolff 2012a: 223)

I agree that there should be no difference between developing and developed countries with regard to threats to health such as HIV/AIDS. We should strive to ascertain universal availability of these forms of medication. Moreover, we need to look for ways to transform our institutions allowing medicines to become available to those in disadvantaged situations. It would be highly unjust to permit background conditions (e.g., patent regulations and business models geared towards maximum profits) rather than health needs determine the demands of a right to health.

Similarly, we must realize that certain presuppositions are at play when considering threats to the health of animals positioned outside human societies, such as the Assateague horses. For example, if one argues that treating individual horses for dental problems or infected wounds cannot or should not be done, we should figure out not only why but also if these reasons hold up when put to the test. A lack of sufficient capacity in terms of personnel to monitor their health does not entirely convince in and of itself.

To what extent do threats to health remain context-dependent? If a horse lives longer in confinement when compared to its conspecific in the wild, does the right to health not automatically imply that we need to capture an animal living in the wild to then see to it receives the same kind of care?

Health is generally understood in terms of a statistical assessment of functioning within a specific context (see chapter 4). Considering the influence humans have by creating a specific socio-ecological environment and technological advancements, the baselines of health are not value-free (Venkatapuram 2013). Therefore, in the future, death resulting from old age may presumably become a standard threat to health (Wolff 2012b). Technology could drastically transmute the parameters of our lifespans, affecting what we would deem a healthy life.

In a certain sense, the health of animals in the wild can be defined almost without the involvement of values. The baseline of their health is predominantly unaffected by humans, in contrast to domesticated animals, whose health parameters are extraordinarily defined along the lines of human interests. Because humans can now affect the lives of great apes in the wild in both negative and positive ways, we need to determine the adequate baselines of health, which involves values. Donaldson and Kymlicka argue that a right to health must be supported by a single baseline, whereby the health of domesticated animals serves as the appropriate standard. Considering the implications of this claim, Donaldson and Kymlicka reject a right to health for animals outside of mixed human-animal societies.

Perhaps we need to allow for more pluralism and contextualism regarding the baselines of health. For animals living relatively independent lives, the right to health may imply increasing their baselines of health rather than projecting the health standards of domesticated animals across the board. The right to health demands protection against standard threats to health, not a specific health status. Over time, these baselines may converge⁸¹ hereby providing a more nuanced stance when compared with the “all or nothing” interpretation as proposed by Donaldson and Kymlicka.

The above discussion has mainly focused on the account which Donaldson and Kymlicka presented. But what is the outcome of Cochrane’s viewpoint? Whereas Donaldson and Kymlicka require too little, Cochrane may allow too much. His understanding of the entitlements of animals to freedom does not create much of a boundary pertaining to intervention. Furthermore, it facilitates transforming the lives of animals in order to match human interests. Applying Cochrane’s reasoning to this particular case, individual horses only have instrumental interests in freedom, implying that as long as they do not suffer or become frustrated, their entitlements to freedom are satisfied (see 3.5). Opportunities to roam, for example, can be restricted as long as they do not affect their well-being in a too negative manner. Furthermore, changing the behavior of animals does not impose any problems of moral relevance. Imagine plans for the development of tourism on the island that involves the feeding of horses, not to avert malnutrition, but to enable closer interaction with these animals. If they become less fearful of humans, opportunities for tourism would evolve. The

⁸¹ Similar to providing domesticated animals with more opportunities to develop and explore their agencies while at the same time safeguarding their health, animals living relatively independent lives should have their health safeguarded wherever possible, too, while simultaneously respecting their individual agencies.

animals may become more dependent on human provision, which is not problematic as long as a long-term commitment to safeguard their needs exists. Over time, the animals will slide along the continuum between wild and domesticated moving towards the latter end of the spectrum. The management of procreation can be adjusted to the demands of tourism as well as to ecological and individual concerns.

The contrast between the two approaches becomes apparent. Donaldson and Kymlicka steer towards a collective self-determination in the light of ecological concerns. On the other hand, Cochrane's account allows for more intensive management that may be informed by other considerations (e.g., tourism) as long as the welfare of individual animals is not negatively affected. Where Donaldson and Kymlicka appear to move towards the "wild" side of the continuum, Cochrane ends up more on the "domesticated" side.

I suggest a kind of middle ground. A respect for agency entails allowing individual animals to determine the shape of their own lives as much as possible. Any restrictions of freedom whenever not premised on basic interests of the individual in question (e.g., tourism) do not contribute much in terms of normative weight. Shaping the lives of horses rendering them more suitable for tourism is not a justifiable restriction of agency, as it limits the opportunity range for the interests of others. Protecting health against standard threats to health, however, is compatible with a respect for agency.

The exchange between Cochrane, and Donaldson and Kymlicka highlights that:

(a) one should discuss the content of a right to health (care). Both above-mentioned parties limit their arguments to the access to healthcare. As argued throughout chapter 4, the right to health needs to accommodate various determinants of health as well. The ecological and interspecies determinants of health have in particular been underappreciated.

(b) most prominently, the disagreement centers on the conditions for holding a right to health. Whereas Donaldson and Kymlicka develop a citizenship account, Cochrane criticizes such a group-differentiation of interest-based rights. I support Cochrane's arguments in favor of a cosmopolitan understanding of the right to health. However, I also hold the view that his account of the right to health is underdeveloped and I furthermore propose a richer understanding of instrumental interests in freedom. Cochrane's account leaves animals vulnerable to changes in their lives that conflict with respect for agency. Moreover, the right

to health needs to be further specified and discussed in relation to the animal's interests in freedom.

(c) Donaldson and Kymlicka discuss the right to health care primarily against the background of current health policy, including institutions and ways of funding. The fact that domesticated animals can be included in current health-care insurance schemes does however not provide an argument to deny resources to animals that live more independently from human affairs. I have argued that alternative institutions could very well provide animals positioned just outside society with health care as well as policy aimed at the multifarious determinants of health.

Although the theory presented by Donaldson and Kymlicka conflicts fundamentally as to the scope of justified intervention into the lives of wild animals with Cochrane's theory, considerations of fallibility and feasibility largely align the practical implications of both points of view. Much more divergence arises when considering animals that traverse the boundary between the wild and the domesticated. Indeed, the practical implications of both views differ significantly when discussing the obligations towards animals whose lives interface with that of humans. I have launched an attempt to provide a middle ground by means of not only specifying the right to health as a context-dependent normative demand but also by emphasizing the need for a justified reason to restrict the agency of animals. Efforts to protect against standard threats to health fit this requirement.

6.6 Concluding remarks

In the present chapter, several arguments in favor of non-interference with the lives of animals outside of mixed human-animal societies have been discussed and found lacking. Justice expands beyond the confines of society and of the human species. Based on a cosmopolitan line of reasoning, I have explored the plausibility of a right to health for great apes living in the wild. Feasibility as well as fallibility impede recognizing a concrete right to health for the majority of great apes living relatively independent lives, with the notable exception of safeguarding their ecological space. However, for those living closer to human societies, these problems may not arise. Adopting the case of the Assateague horses, I have assessed both Donaldson and Kymlicka's as well as Cochrane's accounts in order to sketch the contours of a right to health in the wild and contrasted them with my own proposal. Restriction of agency with the aim to protect against standard threats is compatible with

respect for agency. The right to health calls not only for assessing the relevant threats but also for the institutional configuration required when protecting against standard threats. I will bring the above reasoning to bear on great apes specifically in the following chapter.

7. Great ape health policy

What are the implications of a right to health of great apes? This chapter will deal with this question by singling out three areas of concern, to wit, (a) the health of great apes in captivity, (b) the issue of vaccine development in relation to great apes and (c) in situ health measures in the wild.

As to (a), what do we owe great apes in captivity with regard to their health needs? When discussing this topic, the following and more general issue that requires attention emerges: does meeting the health needs of great apes in captivity involve a matter of justice or charity instead? As will become apparent, the latter not also comes with several pitfalls but also accentuates a supposed distinction between health needs across species: only human health triggers considerations of justice. Does such a distinction hold its ground?

As to (b), it is time to take a closer look at the recent debate on vaccinating great apes in the wild, which has centered on immunization against Ebola virus disease. The following issues must be addressed. First, should one vaccinate great apes in the wild? In answering this question, scientific uncertainties as well as principled perspectives need to be carefully assessed separately, including the underlying motivations to consider such measure. The second question is more general and pertains to costs imposed on others in the course of developing such vaccines. To what extent can others be harmed for the sake of protecting great apes in the wild against Ebola virus disease? Two arguments set the stage for engaging with this subject. It is argued that either (1) the inflicted harm is not significant enough to prohibit such research (Walsh et al. 2017) or that (2) great apes in captivity would want to be enrolled in research to benefit their wild counterparts (Capps & Lederman 2015).

As to (c), to what extent should we promote the health of great apes living relatively independent lives? This question prompts a discussion on the ethical permissibility of habituation.

7.1 Great apes in captivity

Even before considering the demands of the right to health in the context of captivity, one could object that confinement of great apes cannot be justified in the first place. Should we not release each and every ape from the shackles of human custody? Though there lies truth in

this objection regarding great apes who lack a sufficient range of opportunities, there are other reasons why their being released (back) into the wild is not an option for many individuals living in captivity. Captivity obstructs freedom directly, as well as indirectly by affecting skills and abilities making reintroduction into the wild problematic for individuals who are insufficiently adapted to a natural context.

Another reason why releasing captive apes into the wild abounds in problems is: the lack of a suitable habitat (Cooke 2017). However, even if habitats are plentiful, and the individual is qualified in every relevant way to live independently in the wild, one must also consider the possible effects on other animals already living within the ecosystem. When introducing formerly confined animals into the wild human-derived pathogens may put the health of wild conspecifics at risk. Confinement not only affects animals in socio-behavioral and psychological terms but also alters primate microbiome (Clayton et al. 2016). Moreover, close contact with humans can facilitate pathogen transfer across species, as was the case, for instance, with a two-year old female gorilla in captivity diagnosed with Human herpes simplex virus type 1 (Gilardi et al. 2014). Introducing this gorilla into the wild could negatively affect the health of other free-living gorillas.

Therefore, sound reasons exist to regularly keep great apes confined. In such cases, we need to determine a reasonable range of opportunities (see 3.5), which not necessarily overlaps completely with living a fully wild life. What kind of captive life would be compatible with the interests in freedom?

Whether such a range can be provided within the context of zoos remains to be seen. Needless to say, there are a wide variety of zoos and ways to keep great apes, a number of which are significantly better attuned to the desired needs and interests than others. However, the demands pertaining to the right to freedom of opportunity are substantial and may very well clash with the objectives of zoos.

Sanctuaries where the interests of great apes themselves are guiding offer an alternative. What does the right to health involve for great apes that live confined within the context of sanctuary life? In contrast to their wild counterparts, the great apes housed in such sanctuaries are generally immunized against for example measles and tetanus by means of active

vaccination.⁸² However, their susceptibility to human pathogens remains a problem, highlighting the need to take precautionary measures such as restricting human-great ape interaction and improving hygiene as well as biosecurity by utilizing designated clothing (e.g., face masks, gloves). A health program should be installed in order to monitor the health of staff members and vaccinate them against certain reverse zoonotic diseases if necessary. These measures are key in the protection of great apes against significant standard threats to their health, to wit, infectious diseases originating from humans.

With these precautionary measures in place, which other threats deserve our attention? An obvious determinant of health involves the availability of health care. Veterinarians specialized in the health of great apes are invaluable, as they can provide curative care and monitoring health in view of possible preventive measures (e.g., blood tests, echocardiography, other imaging diagnostics, lab work). The care for great apes in captivity can to a certain degree mirror the standardized monitoring of human health which includes scheduled check-ups carried out by general practitioners. Data retrieved in the course of health monitoring can also contribute to obtaining a better understanding of the health of great apes and its vulnerabilities. Bio banks can not only manage but also make such data available. Collaborative efforts, such as the Great Ape Heart Health Project, provide us with a platform through which to disperse knowledge and bring together relevant experts.⁸³

Protecting and promoting great ape health generally requires attention for social dynamics. Isolation, on the one hand, may have a detrimental effect on health. Overcrowding, on the other hand, as demonstrated in other social animals may lead to stress, decreased mental health and long-term effects on bodily health (Akhtar 2012). The environment must be rich in opportunities in order to prevent a sedentary life and the subsequent threats to health. Great apes in the wild often spend many hours a day foraging (Schwitzer & Kaumanns 2003). The fact the wild great apes do so does not directly imply that the confined great apes will have to do the same, but only to the extent it benefits their interests. The foraging practices in the wild should inform great ape care in captivity. Their food must be healthy in terms of its nutritional value and valuable in the way it is presented to them.

⁸² For these measures and others mentioned in this paragraph, see the *Primate Veterinary Health Manual* of the Pan African Sanctuary Alliance, https://pasa.org/wp-content/uploads/2016/05/PASA_Vet_Manual_2009_2nd_ed_677pp.pdf [accessed 19 March 2019].

⁸³ For more information, see <https://greatapeheartproject.org/> [accessed 3 October 2017].

As discussed above, protecting the individual health of a great ape against standard threats should be central in creating socio-ecological conditions as well as health care facilities. Based on the interests of all great apes held in captivity such measures should ideally be available to each and every one of them.

7.2 The health of great apes: more than charity

Apes kept in sanctuaries have frequently endured a great deal of suffering due to medical experiments, detrimental circumstances, and/or pet trade. It has been argued that these animals deserve sanctuary care because of the way they have contributed to human interests. In 2000, President Bill Clinton signed the CHIMP (Chimpanzee Health Improvement, Maintenance, and Protection) Act into law. It allocates public resources for the care of chimpanzees retired from being subjected to medical experimentation.⁸⁴ It is erroneous, however, if it takes sanctuary life as a matter one deserves through ordeal. Rather, as advocated in the present thesis, great apes kept in confinement merit high standards of care because of their sufficiently important interests, which are relevantly similar to the interest of humans. Having been exploited for the benefit of human interests is not a necessary condition to receive a specific portion of public resources. This outcome is particularly relevant to great ape sanctuaries that mainly depend on public donations rather than public resources. Why is this a problem? If they receive sufficient funding from public donors – let us assume for the sake of the argument that they do – why create that much ado about the source of these funds?

We need to follow the money for a number of reasons. Needless to say, donations are of vital importance to conservation efforts and sustaining sanctuaries. Many organizations depend entirely on donations, which necessitates marketing strategies in order to safeguard sufficient financial means. The related costs could have flowed directly towards caring for great apes. Moreover, such expenditures could create inequalities between various organizations for the reason of marketing rather than for their capacity to provide care for great apes. Organizations also have to rely for their financial support on a fraction of all citizens. This situation is unfair to those who donate if they indeed bear the costs of matters of a more general responsibility.

Governments, who are also the designated duty holders for instance regarding children without parents or guardians could apportion part of their public resources for protecting as

⁸⁴ <https://www.govinfo.gov/content/pkg/PLAW-106publ551/html/PLAW-106publ551.htm> [accessed 19 March 2019].

well as promoting the health of great apes. The following relevant question now arises: how much funding should be apportioned? To what extent should any further research into the health of great apes in captivity (pertaining health care options, socio-ecological determinants of health, bio banks and institutional cooperation) be promoted as a matter of justice? We are now taken back again to the specification of rights, the translation from *prima facie* rights to concrete rights.

We could take human entitlements as a reference point for duties corresponding to a great ape's right to health. In very general terms, the right to health requires access to health care but the threshold level for treatment is very much a contextual consideration. The condition for which one has access to health care requires further specification, not merely access in itself. In an abundance of resources, the threshold would differ significantly from any situation characterized by scarcity.⁸⁵

Health policy requires reflecting upon the health interests of great apes held in captivity. Now and again obligations towards these apes are understood primarily in terms of reparation pertaining to any harm suffered either during medical experimentation or human ownership. I do not discount the normative relevance of both but argue we should recognize obligations beyond mere reparation or charity. The health interests of great apes are relevantly similar to those of humans. If we justify health policy and meeting health needs of humans in terms of justice, we should do so too for great apes residing in our midst.

7.3 Vaccinating great apes

Let us now deal with vaccinating great apes in the wild. This issue touches on a recent and controversial debate, which has centered on the immunization against the Ebola virus disease.⁸⁶ The past and potential impact of the Ebola virus disease on great ape populations is believed to be significant, with estimated mortality rates in certain gorilla and chimpanzee populations in some cases reaching above 90 per cent (Leendertz et al. 2017). Retrieving

⁸⁵ It has been argued that the right to health, if intelligible at all, will only demand access to health care. Human entitlements may thus obfuscate relevant vulnerabilities of health. The Wolffian definition of the right to health as protection against standard threats, as advocated in chapter 5, pushes against such a narrow scope. If threats are sufficiently serious (which involves a judgment not immune to scrutiny) and standard in the relevant sense, then this right imposes corresponding duties. The above-mentioned definition provides us with a minimal understanding of the demands of health justice in the way it pairs the seriousness of threats with the feasibility of averting them.

⁸⁶ In West Africa the devastating 2014 outbreak involved the Zaire strain of the Ebola virus, which can infect both humans as well as great apes.

robust data on these outbreaks proves very difficult. In general, great apes shy away from any form of interaction with humans. Moreover, whenever individuals infected by Ebola virus then succumb to the infection, their bodies decompose rapidly because of the tropic environment (Leendertz et al. 2017). Albeit troubled by these factors, monitoring of great ape populations in the case of Ebola virus disease outbreaks can function as an early warning system (Karesh et al. 2012). In that sense, great apes are sentinels for proximate Ebola virus threats to human communities. Great apes can also play a role in the transmission of the Ebola virus into human populations, especially when they are hunted and slaughtered for bush meat, as this involves close contact with blood (Peterson 2013).

Vaccinating great apes in the wild is considered controversial for both scientific and ethical reasons. First and foremost, can the effects of introduction of such vaccines into wild populations be adequately predicted? What level of risk is acceptable? Difficult questions!

Related to the above-mentioned issues are practical concerns regarding the method of introduction and the type of vaccine, against the backdrop of ongoing pharmaceutical development. Vaccines against Ebola differ in significant ways. For instance, cAd3-EBO-Z (De Santis et al. 2016) and rVSV-EBOV (Henao-Restrepo et al. 2015) are vector-based vaccines. They contain a genetically modified benign version of the Ebola virus, allowing for a targeted immune response in individuals (Leendertz et al. 2017). The cytomegalovirus-based vaccine (Marzi et al. 2016) allows a form of self-dispersal, hereby broadening the effective range of vaccinating an individual. This outcome is not without concern: “the ethics and risks of introducing any genetically modified virus, even if the original vector virus is naturally found in the population, require careful and thorough discussion. Once released, the vaccine virus cannot be removed from the population” (Leendertz et al. 2017: 104). To address this concern, one could opt for a virus-like particles (VLPs)-based vaccine, which does not subsequently spread itself to a single injection but requires multiple injections per individual. Though safer, it is also significantly more difficult to immunize individual great apes in the wild (Warfield et al. 2014).

Therefore, vaccinating great apes in the wild against Ebola virus disease is very much a question of medical technology, as “with the rapid progress in Ebola vaccine development, vaccination of wild great apes might become a tool for conservation and protection of human health in the future. Research must focus on developing safe vaccines that can be delivered

efficiently to large populations of elusive wild apes in their natural remote habitats” (Leendertz et al. 2017: 108). Advancements in medical technology broaden the range of human action, sometimes radically so, and we need to reflect whether the contingent limits placed by technology on what is possible suffice in terms of our values.⁸⁷ My discussion shall focus on ethical questions linked to vaccination rather than on scientific questions. What if it turns out to be technologically possible and safe to vaccinate great apes in the wild against Ebola virus disease?

7.4 Should great apes be vaccinated?

What are the underlying incentives for considering the vaccination of great apes in the wild against diseases such as Ebola virus? First, vaccinating great apes could safeguard public health by means of reducing the threat of spillover from great ape populations into human populations. Instead of utilizing great apes as sentinels for outbreaks of infectious diseases, immunizing would perhaps largely remove the need for sentinels to begin with (Capps & Lederman 2015).

The elimination of rabies in foxes across Europe is a well-known case and an often-referenced success of vaccinating wildlife (Cliquet & Aubert 2004). The main reason for implementing this immunization strategy was the protection of public health. Foxes have certainly benefitted from this effort, too. However, if foxes would be the sole beneficiaries of this action, it is highly doubtful whether the vaccination would have been implemented at all. Public health appears to be the primary motivation of eliminating rabies.

An emphasis on public health need not result in vaccinating wildlife. Other measures might suffice. Habitat encroachment and contact can be prohibited, buttressed not only by means of enforcement but also by education and incentives. Changes in human behavior and habitat encroachment can significantly decrease the chances of infectious disease spillover (Patz et al. 2004). These efforts may prove to be more efficient as well as cost-effective. Are there other reasons for developing vaccines as well as methods in order to then distribute them amidst great apes in the wild? What is their respective normative weight?

⁸⁷ For a discussion of the possibilities of the innovative gene-editing technique CRISPR/Cas9 aimed at the reduction of the suffering of animals in the wild, see Johansen 2016.

A second reason emphasizes how vaccination can contribute to species conservation. Infectious diseases such as Ebola virus impose significant threats to the survival of many populations of animals living in the wild which is all the more relevant to great ape species as they are all endangered, some even critically.⁸⁸ Vaccination may provide us with a means to prevent their extinction (Ryan & Walsh 2011). Instead of merely removing the threat to humans, this perspective also accords weight to the conservation of species. If species conservation were key, vaccination would perhaps be considered impermissible when survival of the species is not in danger. In other words, if great apes were not endangered, or looming Ebola virus disease outbreaks would not impose such a threat of extinction, it remains unclear why we should consider vaccination.⁸⁹

Finally, the health of individual great apes themselves could be the main reason for vaccination. Rather than public health or species conservation, we could be motivated to protect great apes against Ebola virus disease primarily for the way it affects them as individuals.

The above three perspectives need not exclude each other. A concern for public health could very well be combined with the motivation to conserve species. In addition, efforts aimed at protecting the health of individual great apes will often contribute to health at a population and species level. Let us now look closer at the way in which these perspectives play out, beginning with a so-called “shared benefit” approach.

The “‘shared benefit’ approach seeks to actively maximize health in one species while in turn benefiting another species as well” (Capps & Lederman 2015: 1023). This understanding pushes against an overly anthropocentric rendering of the One Health framework as it advocates a health policy that benefits multiple species instead of humans only. In relation to vaccinating great apes in the wild against Ebola virus disease, it is argued tentatively for doing so, because any compelling reason for non-intervention in principle is lacking (Capps & Lederman 2015).

⁸⁸ http://www.primate-sg.org/great_apes_in_the_world/ [accessed 11 January 2018].

⁸⁹ Notably various reasons support species conservation, which need not reflect the value of the species in and of itself. Indeed, one could consider the conservation of species primarily important because of the value for humans in the future, see Norton 2003.

Whereas this approach takes the concept of One Health policy beyond its often human-centered perspective, it does not do so in a fully satisfactory manner. Health policy should benefit multiple species, but it remains unclear to what extent we should benefit other species. What do we owe to great apes and for what reason? Controversial claims concerning the moral status of animals in comparison to humans are avoided as much as possible. Instead, in order to include non-human interests into health policy, the notion of universal goods is proposed thus: “these are the kinds of goods that reach beyond the needs of human communities, describing benefits as inclusive across species, and feature broadly in ecosystems and the environment” (Capps & Lederman 2015: 1016). Instead of engaging with the question of moral status and demands of justice framed in terms of rights, Capps and Lederman reside to the notion of universal goods. They recognize that more can be said about the interests of animals and how these enter our moral deliberations, indicating that “a debate about animal or environmental interests or rights is to be had. In our paper, however, we develop this idea of universal goods to give weight to the broadly inclusive and shared determinants that are affecting both humans and animals as victims of Ebola” (Capps & Lederman 2015: 1017).

The above-mentioned cautionary approach contains much to agree with while at the same time, paradoxically, immediately prompts debate. Should we only benefit other species if this benefits humans too? The focus on Ebola virus is understandably a result of its huge impact on human and great ape populations. However, as it represents a zoonotic threat, it slightly obfuscates other concerns. For example, in promoting “shared immunity”, Capps and Lederman do not discuss whether we should vaccinate great apes in order to protect them from infectious diseases that impose no harm to humans. Needless to say, this could very well be part of the concept of shared immunity.⁹⁰ We could, for example, protect great apes from (highly) contagious diseases e.g., human Metapneumovirus (hMPV) and measles. Efforts to monitor human health and vaccinate humans against such viruses could be an example of shared immunity (Cranfield & Minnis 2007). As with protecting great apes in order to protect humans, we could protect humans in order to protect great apes even if humans would not suffer (substantially) from certain agents, as is the case with numerous common human viral upper respiratory tract infections. We can take matters one step further by stating that promoting interspecies immunity in non-human species should also be added to the concept

⁹⁰ Anthroponotic infectious diseases are briefly indicated as a possible reason to prevent interaction between humans and great apes, see Capps & Lederman 2015.

of shared immunity. Thus, whereas humans might be involved in promoting immunity, they do not need to be part of the disease ecology as subjects themselves. The concept of shared immunity is sound, but nevertheless deserves further unpacking in relation to other species.

The shared benefit approach allows for a certain ambiguity between individual and collective interests. Whenever the objectives are primarily located at the level of species, individuals move to the background. If we take human rights as a normative reference point for the entitlements of great apes, a line of argument followed in this thesis, we should add the basic interests of great apes to the way we configure our health institutions. This inclusion differs from improving the health of great apes primarily because of its benefits to public health. Instead of public health or conservation, the primary objective could very well be the health of individual great apes. As Capps and Lederman do not engage with the animal rights debate, their approach remains somewhat unspecified at this level too.⁹¹

What if we start from the entitlements of individual great apes instead? As discussed in previous chapters, each and every great ape holds a *prima facie* right to health based on his or her interests in health, with considerations pertaining to fallibility and feasibility which restricts the extent to which great apes in the wild have a concrete right to health. Focusing on Ebola virus, its seriousness is beyond doubt. The virus is responsible for high levels of mortality (Leendertz et al. 2017). Therefore, as with humans, the virus has devastating effects on the lives of great apes.

Is Ebola virus disease also a standard threat to the health of great apes in the wild in the full Wolffian sense? If the seriousness of this danger is indeed beyond any doubt, it depends upon a solution, most probably in terms of a specific kind of vaccination, being in reach within a reasonable amount of time, effort and resources. This solution involves a judgment informed by knowledge of medical technology as well as a normative one. How far are we willing to stretch the demands of reasonableness? It is simply infeasible to provide health care and/or any other health-related duties to great apes living at some distance from human affairs. Vaccination, however, may form an exception (as well as duties to safeguard ecological space), especially for those residing on the border of human society.

⁹¹ It has been tentatively suggested that the Great Ape Project (1993) is a philosophical ground to consider apes as equals, see Capps & Ledermann 2016.

Imagine that vaccination against Ebola virus disease could be implemented without any significant risks, costs or restrictions of great ape agency. Should we carry out this procedure? Ebola virus disease implies a serious threat to health for humans and great apes alike. If this virus strain can be averted with reasonable demands in terms of time, effort and resources, it should take place primarily in order to protect individuals against this threat. As with the virus itself, interests in being protected against it transcend species lines.

As yet, such a measure is not a realistic depiction of possibilities available in the near future. Many difficult considerations come with the topic of vaccinating great apes in the wild against Ebola virus disease. As stated in a best practice guidelines report, “immunisation campaigns are complicated, costly and may require multiple booster immunizations (requiring long-term commitment to the effort) the practicality of administering an Ebolavirus vaccine to even habituated great apes is debatable” (Gilardi et al. 2015: 31).

Although vaccination of great apes in their natural environment has not been carried out frequently, in described cases it has involved individuals more or less accustomed to human presence as a result from a procedure referred to as habituation, which involves the gradual exposure of great apes in the wild to human presence and which is aimed at desensitizing these apes over time to the effect they regard humans as neutral elements of their habitat. This procedure and its ethical aspects will be further discussed in the final section of the present chapter.

In 1966, the world-renowned primatologist Jane Goodall vaccinated habituated chimpanzees against polio by means of bananas containing vaccine (Goodall 2000). Between 1989 and 1990, several habituated Mountain gorillas (*Gorilla beringei beringei*), home to the Virunga Mountains (East Africa), displayed symptoms of a respiratory disease. Here the Gorilla Doctors (a non-governmental organization formerly known as the Mountain Gorilla Veterinary Project), having presumed an outbreak of measles, then prompted a careful vaccination of 60 gorillas. This intervention could inform future vaccination programs. Although “the cause for the respiratory disease outbreak was never definitively diagnosed, the outbreak subsided after the vaccination programme. This indicated that, if necessary, a sizeable portion of the Mountain gorilla population could be vaccinated in the face of a disease outbreak” (Cranfield & Minnis 2007: 114). Despite of the various risks, vaccinating habituated great apes in the event of an outbreak proved to be successful in these instances.

In sum, vaccinating great apes in the wild has only been carried out amidst apes more or less accustomed to human presence and in response to an immediate threat to their health and therefore not so much as a preventive measure. If we presume that concerns of practicality would indeed limit the scope of vaccination strategies, leaving only those great apes in the vicinity of humans as plausible subjects for immunization,⁹² we are then left with the question: should habituated great apes in the wild be vaccinated against a standard threat to health as a preventive measure, or only in response to an immediate, concrete threat? This issue involves empirical and normative considerations. Is it possible to avert a threat of Ebola virus disease in response to an immediate danger without being too late? How do population and individual health weigh up against each other? A reactive stance may indeed suffice to prevent diseases such as Ebola virus disease from endangering the survival of the species and/or population. Fatalities in the event of an outbreak will occur but not to the extent that a population becomes unsustainable i.e., not being able to reproduce at a required rate. If one attributes much weight to the species, a reactive vaccination strategy could be acceptable when addressing the threat posed by the Ebola virus.

Instead of merely ensuring the sustainability of populations, more may perhaps be required. Although the benefits of vaccination are often collective, for example, by ensuring the survival of populations, they do involve a concrete benefit to the individual who is protected by means of immunization. If we only look at the potential of vaccination to avert a population collapsing, a certain number of individuals risk being infected and then affected by devastating consequences. We must assess the risk of an Ebola virus infection run by individual great apes in order to determine either if this level is acceptable or if vaccination is required to minimize any further dangers. We could perhaps be ushered towards a preventive attitude instead.

Precautionary considerations may ultimately favor a reactive stance (Gruen et al. 2013). A range of scientific concerns pertaining to the safety of introducing vaccinations into wild populations soft-pedal any prospects of expeditious implementation. Predominantly an empirical issue, however, I cannot determine the implications of these precautionary considerations. Nonetheless, if precautionary considerations do restrict applying vaccinations

⁹² This is in line with the discussion (see 6.4) where I indicate that considerations of feasibility and fallibility drastically curtail the scope of the right to health. These restrictions are of less concern to great apes living in the vicinity of human dwellings.

within a reactive rather than a preventive approach, what does this entail? Outbreaks of for instance Ebola virus disease occur randomly, rendering it practically impossible to predict whether or not a population is at risk. A reactive approach largely relies on a swift response in order to effectively address the immediate threat. This procedure involves considerations regarding the background conditions required when ensuring an effective response. Are veterinarians authorized, equipped, or even capable of administering vaccine adequately and in time? Which regulations concern vaccinating great apes in the wild? Are vaccines available? Which necessary logistical steps must be taken in order to ascertain their presence? Who provides the resources for implementing this vaccination strategy? Such issues must be addressed if one opts for a reactive approach.⁹³

In conclusion, considering the seriousness of Ebola virus disease and its threat to the health of individual great apes, we should evaluate if it is possible within reasonable means to take protective measures against this threat. Although this assessment involves a normative judgment, it is very much an empirical matter. I have argued that there are no principled arguments to oppose the vaccination of great apes in the wild. In fact, vaccination (if no unreasonably high costs, risks or restrictions of freedom are imposed) should be carried out as a matter of corresponding duty to the right to health of great apes.

I have not only distinguished between a preventive and reactive attitude to vaccinating against Ebola virus disease but have also indicated how various normative assumptions could be at work in deciding between the two. A concern for the vulnerability of the individual requires a careful appraisal of a preventive approach to vaccination. Significant precautionary considerations could shift the balance towards a reactive rather than a preventive attitude. When a reactive attitude is appropriate for precautionary reasons, this involves the duty to consider if an adequate infrastructure is in place to respond in the face of a suspected outbreak. Note that these arguments are not limited to Ebola virus or zoonotic pathogens.

7.5 Should we enroll great apes in medical research?

Until now, I have addressed the question if there are compelling moral reasons to vaccinate great apes against Ebola virus disease, which I have answered affirmatively. The issue of

⁹³ “The possibility and limitations of vaccination in an outbreak situation ... should ideally have been discussed well beforehand and a network of assistance for such emergency situations should be established.”, see Leendertz et al. 2017: 108.

vaccines is however not limited to its implementation in the field. Especially from a One Health perspective, a more integrated approach is required, as becomes apparent when the question is asked: what does it take to develop vaccination within a reasonable amount of time, effort and resources?

Considering whether a threat to health is standard requires not only a discussion but also an estimation of the capacity of medical technology as well as an explication of the presupposed harm imposed upon others during the process of finding a solution, and if this distribution of resources can be justified in the light of other demands. The human right to health involves assumptions that pertain to the utilization of animals and that need to be made explicit. Likewise, the right to health of great apes also requires a careful exploration of the interests at play. A shared immunity reflects a level of protection against standard threats to health reaching across more than one species. However, it also presupposes research involving animals. The actual protection of great apes and humans against Ebola virus disease by means of vaccination is preceded by research into animal and human subjects.

Hence, the discussion on vaccinating great apes in the wild in order to protect them, and indirectly humans, against Ebola virus disease cannot be separated from the animal research involved in developing such vaccines. The integrated stance on health policy as reflected in the One Health framework requires an upstream evaluation of the research chain, both in terms of science and ethics. This point of view is all the more relevant as research on captive great apes is one of the options suggested by authors involved in the debate on developing safe vaccines to implement in the field (Walsh et al. 2017; Capps & Lederman 2015). An issue here concerns the extent to which research on captive great apes is justified if this is a necessary step to provide their wild conspecifics with protection against a threat to their health such as the Ebola virus. A slightly different question is: should we vaccinate great apes in the wild? Even if the answer to the latter is affirmative in principle, the way of developing vaccines may conflict with the rights of great apes. Let us now look into a number of recent proposals linked to this topic.

Invasive research involving great apes is currently prohibited by law in certain countries, including, among others, New Zealand, Germany, and the Netherlands. Even where an explicit legal ban is lacking, for example in the U.S., Peter Walsh and his colleagues explains that while,

in principle, research that benefits wild chimpanzee conservation is exempt under the new ESA regulations banning medical research on chimpanzees. In practice, all of the biomedical facilities that held chimpanzees have or are in the process of ‘retiring’ their populations to sanctuaries which are philosophically opposed to invasive biomedical research (Walsh et al. 2017: 6).

The ban or reluctance to subject great apes to invasive research has been challenged. In a plea for developing vaccines for great apes in the wild, for example, Walsh c.s. has argued against the ban on utilizing great apes in medical research. He substantiates this urgent request by means of:

(a) an argument driven by the weight attributed to species conservation. Though it is not clear why species conservation matters specifically in this case (both anthropocentric and non-anthropocentric reasons could do the work), protecting great ape populations from extinction is the main reason for performing such research.

(b) a more explicit argument whereby through the measuring of biological parameters, animal welfare concerns possibly involved with testing vaccines on captive great apes are downplayed.

In order to make their case, Walsh c.s. have recently performed vaccine trials on captive chimpanzees, with a twofold aim, to wit, “to objectively quantify the level of stress experienced by study chimpanzees and to differentiate between chronic stress induced by social isolation or confinement in small experimental cages and acute stress induced by the vaccine or experimental procedures” (Walsh et al. 2017: 2). This procedure includes measuring stress response by means of biological parameters such as white blood cell count and serum glucose. If the outcome hereof lies within an acceptable range during the duration of the vaccine trials, as Walsh c.s. state, animal welfare advocates have no substantial reason to resist such research on captive chimpanzees in order to benefit their wild counterparts, and conclude:

Much opposition to the use of chimpanzees in biomedical research has rested on the assertion that confinement of chimpanzees in small experimental cages during trials subjects chimpanzees to psychological stress of a severity comparable to that induced

by persistent torture. However, the relatively rapid attenuation of stress responses in our study suggests that chimpanzees did not suffer severely from severe, chronic stress due to either confinement in small cages or social isolation. (Walsh et al. 2017: 7)

In other words, based on the biological indicators of stress experienced during the research, Walsh c.s. conclude that the chimpanzees appeared to cope with the experimental conditions. Should this assessment convince all those feeling concerned about the welfare implications of testing vaccines on great apes in captivity?

Measuring biological indicators of acute and chronic stress makes sense. Needless to say, severe acute or chronic stress can indeed have detrimental effects on well-being. However, it is by no means clear that the argumentation presented by Walsh c.s. will sway those towards whom the argument is leveled. In their aim to objectively quantify welfare costs, all relevant ethical concerns are mistakenly reduced to biological measurable parameters. There is more to animal welfare than biological parameters alone. This observation renders their conclusion largely irrelevant to the issue if medical research on captive great apes is justified.

Walsh c.s. fail to pay sufficient attention to (a) the former lives of the chimpanzees involved in this research and (b) how this research may have affected them. Perhaps living in a research facility has led chimpanzees to develop adaptive preferences, allowing them to cope better under suboptimal situations. Frequently experiencing forms of social isolation could affect one's psychological as well as one's physiological response to such a situation. Walsh c.s. could respond by arguing that such adaptive preferences does not pose any problems at all. To the contrary, this result renders these great apes very suitable for research, as they do not suffer from any excessive stress. Such a response, however, would diminish their original argument, because then, it would be only applicable to chimpanzees previously subjected to research procedures as were the subjects participating in this vaccine trial. Whether such trials cause significant stress in chimpanzees who have not been subjected to invasive research remains a question.

Still, they would take any adaption of present preferences too quickly for granted. Is it ethically justified to alter the preferences of chimpanzees to the effect they are able cope with medical research? Not surprisingly, my answer to this question is "no". Chimpanzees have, as I have argued, a right to freedom of opportunity, which entails a sufficient range of

opportunities to shape their own lives. Aiming for a sufficient range of opportunities liberates individuals from adaptive preferences they have developed for the sake of others.

What are the consequences if we suppose that the stress response of chimpanzees in question is unaffected by their earlier experiences? Objecting to the wrongfulness of adaptive preferences due to suboptimal context does not fully take the wind out of the sails of Walsh and his colleagues. Nonetheless, the fact that the biological parameters of stress remain within certain limits does not tell us a great deal about the ethical acceptability of such procedures. Keeping chimpanzees confined in small cages, isolated from their social group, or subjecting them to anesthesia may not significantly affect biological parameters. However, these measures are all highly morally relevant. Looking into biological parameters alone does not suffice. The efforts made by Walsh c.s. do not contribute to the discussion on the ethical justifiability of carrying out medical research on great apes in captivity for the benefit of their wild counterparts in the way they apparently deem this exchange of thoughts does, especially as they fail to consider the moral relevance of a restricting agency.

If we were to, for the sake of argument, accept that the harm caused by testing is not comparable to persistent torture, it is not clear what such a conclusion would bring us. Walsh c.s. only address one argument against the use of great apes when researching, under the assumption that (also see the above quote), “much opposition to the use of chimpanzees in biomedical research has rested on the assertion that confinement of chimpanzees in small experimental cages during trials subjects chimpanzees to psychological stress of a severity comparable to that induced by persistent torture” (Walsh 2017: 7). This is an empirical claim. A large part of the opposition is perhaps based upon the comparison with persistent torture, and understandably so, as this would be a most flagrant form of harm. However, as argued above, research could be ethically unacceptable based on other reasons than involving persistent torture. Walsh c.s. make no effort in uncovering such reasons and therefore tend to jump to conclusions too hastily. Their focus on the comparison with persistent torture obfuscates other ethically relevant considerations and thus significantly reduces the value of their conclusions.

A more nuanced approach, in recognition of various ethical considerations, advocates that great apes are vulnerable subjects who lack the cognitive capacities in order to fully grasp the risks and benefits of their enrolment in medical research; much like human children.

Principles developed for research involving vulnerable human subjects can perhaps also be applied to great apes (e.g., Fenton 2014; Wendler 2014).

One of the principles applied in order to guide ethical decision making in the context of research involving particularly vulnerable human subjects is to benefit others of one's kind. Just as children could benefit other children, it has been suggested that "trials might benefit wild populations and therefore it might be possible to justify within human research ethics paradigms" (Capps & Lederman 2015: 1024). Based on what has been referred to as a "shared vision" the willingness of humans to volunteer for phase one trials for vaccine development is indicated as a reason to consider that "possibly retired chimpanzees could be coopted as well" (Capps & Lederman 2015: 1028).

In doing so, we must be fully aware of both the similarities and the differences between great apes and human children. Whereas children cannot fully comprehend all the aspects of their involvement, certain children do have a notion as to benefitting other children. Great apes, however, do not have the slightest knowledge of possible benefits. To what extent are such differences of any significance in determining the permissibility of involving great apes in research?

Age matters. The older the child, the more reason we have to take their personal perspectives seriously. If children lack the ability to have any clue as to the benefits of their involvement in research and do not benefit from the research themselves, then various current ethical frameworks prohibit their enrollment (Wendler 2014). Determining threshold levels of such competency precisely and correlating them with a specific age is difficult for many reasons, as is the case when positioning the threshold level of autonomous agency at 18 years of age. Nevertheless, ethical principles applied in bioethics do take into account the age of children, or to be more specific, their partial competency to comprehend their enrollment in research as well as the presumed benefits and risks it involves.

If we take a step back, one could doubt the argument for *per se* benefiting one's own species. Before examining implications following from such a principle, let us take a closer look at the principle and its underlying assumptions first, especially as it is not clear for which reasons research is justified based on the estimated benefits to others belonging to one's own species. It has been argued that "the primary problem with this argument is that it is not clear that it

makes sense when applied to individuals who have never been competent. For example, it is not clear that there is any morally relevant sense in which chimpanzees are more willing to help future unrelated chimpanzees than future human beings” (Wendler 2014: 169).

Indeed, if species membership is morally irrelevant in determining moral status and the moral significance of interests (see chapter 2), then the principle of benefitting other members of one’s species does not gain any traction. Although moral reasons may lack, other reasons could give rise to the principle of benefitting other members of one’s own species. One important reason is biological similarity. A huge overlap within species in terms of biological functioning has been observed. For example, while paracetamol (aka acetaminophen) in general imposes no danger to humans, it is highly toxic to cats because of their species-specific metabolism. Abandoning research on the analgesic effects of acetaminophen pertaining to its negative effects on cats would thus amount to a false-negative inference. Extrapolating knowledge of health across species boundaries is certainly not without any challenges.

The principle of benefitting other members of one’s species could thus be explained largely in terms of biological similarity. Species membership is an important proviso for utilizing medical knowledge across individuals. Nevertheless, it is not a necessary condition. Why should the principle be restricted to other members of one’s own species? Suppose non-beneficial research could benefit other individuals of other species. In principle, I do not observe a distinction between benefiting others whether they are conspecifics or not. Group-delineated solidarity can be widened in scope. For example, medical research performed on humans (if entirely voluntary and in accordance with ethical regulations) could pursue the health interest of non-human animals e.g., great apes (Capps & Lederman 2016). However, such possibilities may perhaps not arise that often.

By and large, animal research is and has been performed with the aim of benefitting humans (Akhtar 2015). Just as the focus on zoonotic diseases deflects from other relevant transmission routes (human to non-human animal or between non-human animals), research goals may also be too much concerned with human interests. What is the underlying justification for this one-way street of knowledge transfer across species? The interests of great apes not only generate protection against harm but also impose certain duties in order to improve their health. We should not only consider if great apes should be involved, but also if

and to what extent medical research should benefit great apes (Capps & Lederman 2016). This reflection culminates in the question: to what extent can we enroll great apes in medical experiments in order to benefit their conspecifics in the wild?

The principle of benefitting other members of one's own species to justify trials on captive apes has been suggested, as "apes may permissibly be exposed to increased risk in research as long as it may benefit other humans and apes. This is not a utilitarian calculation, but an argument from parity: just as humans are commonly exposed to increased risk in research with the goal of benefiting other humans, so can apes be exposed to risk with the goal of benefiting other apes and humans" (Capps & Lederman 2016: 891). Does the argument of parity indeed apply? Based on the principle of equal consideration, we should consider interests involved in equal terms, but this does not involve equal treatment. Cognitive differences, for example, may affect one's interests. In general, children have at least a certain notion as to the benefits of their involvement, which chimpanzees do not. This difference, as we have seen, is indeed crucial. The principle of benefitting other members of one's own species is problematic if we were to deem species-membership morally irrelevant. We can now add to this that, the incompetence to consider benefits for others (even if belonging to one's own species or not) undercuts the argument to carry out research on such individuals in the first place.

How could the willingness of human volunteers to participate in Phase I trials provide us with a ground to enroll chimpanzees in vaccine trials? This inference is not based on actual endorsement expressed by chimpanzees. Capps and Lederman imply that if chimpanzees were able to consider the possible risks and benefits, they would indeed enroll. However, we can only make such inferences in cases where we aim to benefit the individual e.g., either when protecting him or her against threats they are either unaware of or by means of enrolment in research that would benefit the individual. In these cases, the aim of the research contributes to the interests of the individual in question. Having to respect the agency of individuals, we may decide for them on a number of matters, as is discussed throughout this thesis. We may overrule agency in order to benefit the individual, not to harm it.

Capps and Lederman have not provided any arguments as to why the principle of benefitting members of one's own species can be extrapolated from the human ethical framework to great apes. Great apes lack the required cognitive capacities to consent to such research because

consenting presupposes knowledge not only of the risks and benefits but also of voluntary enrollment. As advocated above, benefitting other great apes in the wild is not relevant to a particular individual in captivity if one rejects species membership as morally relevant. Biology may restrict the benefits of one's enrollment in research to conspecifics. Whether or not one should enroll in research to benefit others is however an ethical question. Species membership may be empirically relevant but fails to provide moral traction.

A further problem regarding the approach introduced by Capps and Lederman concerns their reluctance to engage more thoroughly with the moral status of animals, great apes in particular. This stance is reflected in their comments on the research required to develop vaccines against Ebola virus disease, including the use of animals, all the way down the research chain: "invasive research on great apes—using chimpanzees in particular—is likely to be prohibited; but we suspect that monkey research will continue for some time. This might provide the necessary level to proceed to trials in human and Great Ape populations" (Capps & Lederman 2015: 1028).

Interestingly, Capps and Lederman take the prospect as a given rather than subject it to further scrutiny. Indeed, a surprising viewpoint, considering their tacit recognition of the Great Ape project as a philosophical source of equality across species. It remains unclear if Capps and Lederman support monkey research or not, which again reflects ambiguity. The present study focuses on great apes, too, within a theoretical framework applicable to other animals. The interest-based theory of rights rejects utilizing animals in research if this involves suffering or death (Cochrane 2007). Moreover, as I have suggested, animals have the right of freedom of opportunity corresponding to their competency in terms of agency, which challenges restrictions of freedom. It is therefore by no means obvious that invasive research on monkeys is ethically permissible. Similar reasoning could be applied to other sentient beings. If one takes an interest-based approach to human rights, this puts the exploitation of animals to benefit humans under immense pressure, as many interests are not exclusive to one species only.

All in all, I agree with Capps and Lederman's suggestion to look into ethical principles employed within the context of medical research involving human subjects. I assume these principles are sound if pertaining to that specific context and thus provide us with an important reference point to guide the ethical research practices involving great apes.

Nonetheless, I disagree with Capps and Lederman's on the following issues: (a) species-membership is morally irrelevant for the principle of benefiting other members of one's species, (b) enrolling great apes in research is unjustified as they lack the ability to consent and assess the risks and benefits involved and (c) Capps and Lederman's suggestion of utilizing non-hominid primates for invasive research conflicts with their endorsement of equality as claimed in the Great Ape Project. Especially when based on an interest-based understanding of moral rights, most if not all invasive research on primates (or even sentient beings in general) is ethically prohibited.

In principle the health interests of great apes living in the wild require a careful assessment of the feasibility of protecting them against such standard threats. However, this procedure presupposes that vaccines are developed, which involves clinical research. This presents us with a problem because the ban on involving great apes in research is backed up by sound argumentation. The interest-based understanding of moral rights provides a plausible grounding of equality between hominids, which plausibly extends beyond these species as well. Hence the ban on utilizing great apes for invasive research should be widened in scope in order to include other primates too. The interests at play, suffering and death, are of significant importance to both great apes and lesser apes (and possibly all sentient beings). The incoherence between not exploiting great apes for research while other primates are utilized should not only be explained in detail but also be justified by means of ethical reasoning with regard to both conservation and public health, in particular in the face of emerging infectious threats such as Ebola virus.

Emerging infectious threats are to a certain degree associated with disadvantages to marginal groups. The human immunodeficiency viruses (HIV), for example, spurred the growth of chimpanzees populations in US laboratory facilities, involving "a breeding programme in 1986 to meet the demands of researchers seeking to study the newly emergent AIDS epidemic" (Knight 2011: 202).⁹⁴ Similarly, infectious diseases with pandemic potential (e.g., Marburg virus disease, Ebola virus disease) can prompt either challenging the ban on utilizing great apes or loosening restraints on applying other primates for invasive research in exceptional cases:

⁹⁴ In addition to the harm intrinsic to their involvement, several systematic reviews on research involving chimpanzees have found no substantial evidence for their utility, see Bailey 2008 and Knight 2011.

Emerging human infectious diseases with high lethality demand swift action by the scientific community. In these extraordinary circumstances, conducting infection challenge experiments with primates to study the efficacy of vaccines and treatments before human testing may be ethically justified. But the suffering and death inherent in this research for sophisticated animals that cannot consent constitutes a serious moral price. NHPs [non-human primates] should be subjected to infection challenge experiments only under exceptional circumstances, with a compelling rationale and strict procedural safeguards in place. Such research is justifiable only when it has potential for great human benefit that cannot be achieved without the sacrifice of NHPs. Recent infection challenge studies on NHPs to test treatments and vaccines for the Ebola and Marburg viruses exemplify the kinds of studies to which the exception we advocate applies. (Barnhill et al. 2016: 25)

Barnhill c.s. acknowledge the *prima facie* moral rights of non-human primates not to be harmed by other primates, just like humans have such rights. However, while the rights of the former can be overridden in certain exceptional circumstances, this is not accepted in case of the latter. This conclusion begs the question: “how, in turn, is their standard—which, although stringent, does permit causing NHPs to suffer and die for human benefit—to be justified?” (DeGrazia 2016b: 27). DeGrazia searches but does not find a compelling reason when looking into the argumentation presented by Barnhill c.s. who allow for this exception. Realizing he himself is on the fence whether such an exception should be made facing these devastating infectious threats, DeGrazia does plead for exempting great apes from such an exception because these species are “extremely person-like”: “Great apes, I submit, are so person-like—and so similar in relevant ways to young human children—that we should extend research protections to them that approximate those that apply to human children who are too young to understand the purpose, risks, and possible benefits of participating in research” (DeGrazia 2016b: 28).

Whereas not immediately obvious (or substantial), the differences between, on the one hand humans and other great apes, and other primates on the other hand, could be relevant for the harm of death, as well as the harm of freedom restriction, I do not deem this to bear any significance to forms of harm inflicted through suffering. The principle of equal consideration of interests has been meticulously defended and the relevance of species-membership with regard to suffering has been questioned. If we consider it unethical to impose a certain amount

of suffering upon humans, it is argued, we should not impose it on non-human animals either (DeGrazia 1996).

Therefore, following from that claim, the harm of death or the harm of restriction of freedom should be the distinguishing difference. It is not clear that this dissimilarity obviously translates into the permissibility of using primates in such research. Even if, for example, gibbons and macaques are harmed less by death, their interests in continued life may suffice to generate robust rights protection not very dissimilar to great apes. The same applies to the harm of restricting freedom. Rather than a careful consideration of the *prima facie* rights involved in order to specify concrete rights, the argumentation does appear consequentialist after all if apes (both great and “lesser”) would be enrolled in research.

A consequentialist framework could do the justificatory work, but Barnhill c.s. explicitly refer to a theory of moral rights. The stakes are too high not to allow for an exception, as the argument states. This stance does not at all follow from a strict and consistent deliberation within an interest-based account of moral rights. Distinguishing between species for certain earth-shattering threats to human health remains arbitrary, especially if this exception applies to certain species only. Why species-membership is morally relevant remains unclear. DeGrazia’s plea to exempt great apes from enrollment in invasive research should be acknowledged. Hence, taking these claims together, a case for prohibiting the exploitation of “lesser primates” is strong.

In sum, great apes should not be enrolled in non-beneficial research either for the benefit of other great apes or for that of humans for the reason that they cannot consent. Significant threats such as Ebola virus to the health of humans and great apes as well as well-nigh impending extinction of great ape species place huge pressure on this claim. Just as rights of humans do not give way in the face of such threats, the same would have to apply to animals if similar interests are at play, affecting not only the development of vaccines for humans but also conservation efforts.

A great deal of the recent discussion on vaccinating great apes against Ebola virus disease apparently presupposes a shared ground concerning the importance of conservation. With regard to conservation, the underlying motivations to develop vaccines for great apes must be explicated. These incentives could be very anthropocentric e.g., by valuing the survival of

species in terms of opportunities for future generations. Not to entirely discount the opportunities of future humans, this is not the only nor the most pertinent argument for engaging in conservation efforts. If we include non-anthropocentric reasons for protecting species, a tension between the individual and the collective emerges. It has been advocated that we must conserve species at all costs, even if harm to certain individuals is involved. Other scholars, whom I referred to throughout this thesis, argue that generally speaking species or collectives in themselves lack the moral significance of individuals. Species and populations matter morally in a derivative sense, primarily for the individuals that together make up these collectives (MacClellan 2012). Pressure on species and populations often accompanies harm to individuals, which is the primary moral concern. This is the reason why extinction in itself is not a reason to enroll individual great apes in medical research. It is the harm inflicted upon individuals that demands consideration. Although one's vulnerability to infectious disease could impose duties to protect upon others, for example through pharmaceutical development, such threats to health should not cause harm to those unable to consent to involvement in such research.

The range of possibilities to vaccinate great apes will be limited due to practical and ethical concerns. Non-beneficial research involving great apes is ethically problematic as it presupposes a certain form of voluntary endorsement. Beneficial research instead is aimed at developing solutions for health threats faced by individuals enrolled in the research, which defines the scope of permissible research on great apes as well as the prospects of developing vaccines. Ethical restrictions limit the scope of vaccination to a reactive approach. Considering the current state of medical technology and its reliance on trials in conspecifics it is not ethically permissible to develop vaccines in order to immunize great apes living in the wild. If an alternative to such research did exist, and this would be altogether feasible, a preventive approach to vaccinating these apes should ultimately be pursued.

For now, vaccine trials and vaccination strategies on great apes in the wild are only permissible and required if (a) the risks are reasonably low and (b) immunization is the last resort in order to protect against imminent threats to the health of the apes involved. These conditions concur to a considerable extent with the procedures according to which both dr. Jane Goodall and the Gorilla Doctors have vaccinated great apes in the wild.

Decades of medical research involving great apes have provided in a range of vaccines against a number of infectious diseases (Ryan & Walsh 2011; Leendertz et al. 2017). While the development of new vaccines against diseases is perturbed by the above-mentioned ethical concerns, these vaccines may provide a valuable resource to protect great apes against imminent threats to their health, prompting efforts to evaluate and make these vaccines available to wildlife veterinarians when reacting upon standard threats faced by great apes living in the wild.

7.6 The ethics of habituating great apes

Though vaccination of great apes in the wild is a relatively much-discussed topic, other forms of medical intervention involve close interaction between humans and great apes. Health monitoring by means of frequent field visits provide a wealth of information on the health status of individuals as well as on a population level. Veterinarians can intervene if deemed necessary, for example, in the case of upper respiratory tract disorders, wound treatment, life-threatening conditions, as well as in the case of severe suffering and possibly the need for euthanasia. Such level of health monitoring and intervention is only possible if the great apes in the wild involved are habituated, whereby their gradual exposure to human presence desensitizes them over time to the effect that they appear to regard humans as a neutral element of their habitat. The primatologists Fossey and Goodall both applied this method (respectively on gorillas and chimpanzees) in their fieldwork.

Reasons for habituating great apes in the wild vary. Primatologists were and are foremost interested in the opportunities provided to study great apes at close range. It has hugely facilitated ethological research, resulting in a wealth of knowledge concerning the lives of great apes in the wild. Another reason for habituating these apes is cashed out in terms of opportunities it provides for tourism: habituated apes can be observed as part of a trekking, hereby bringing tourists relatively up close with great apes in the wild. Tourism has become a vital source of income for many livelihoods established in the vicinity of great ape populations as for instance in the Republic of Rwanda, home to the endangered Mountain Gorilla.

Habituation is not without its problems. The process itself is harmful to begin with because subjecting unhabituated great apes to human presence inflicts fear and stress, which in turn could not only lower immunity but also disrupt social structures. Though these effects

diminish over time, the process of habituation often takes years (Woodford et al. 2002). Habituation also poses new risks to the health of great apes. Increased interaction at the human-ape interface renders them ever more vulnerable to infectious disease originating from humans (Woodford et al. 2002; Lonsdorf et al. 2016). Allowing great apes to grow accustomed to human presence furthermore results in vulnerability to poachers and in an increase in human-ape conflicts, as apes venture outside their habitat in search of food (Williamson & Feistner 2011). This is the reason why habituation is discouraged in densely human-populated areas, or where the risk of poaching is high (Gruen et al. 2013). In that sense, habituation creates responsibilities by making apes vulnerable, which is why habituation should only be pursued when those present in the area undertake long-term commitments (Gruen et al. 2013).

More information is required when considering the impact of human presence on already habituated apes. Habituation is generally believed to render apes largely indifferent to human presence, facilitating research as well as tourism. However, in one specific case frequent human presence caused increased levels of aggression, stress and the changing of feeding behavior (Klailova et al. 2010). So, rather than assuming the effects of human presence on already habituated apes as negligible, it remains an important empirical issue in order to establish the ethical permissibility of habituation.

Such concerns prompt the question: is habituation ethically justified, and if so, under which conditions? Despite the substantial impact on welfare, habituation

has not only contributed to our understanding and appreciation of other great apes, but has also contributed to the well-being of apes and the humans who live in immediate proximity to them. But these benefits incur costs as well. Given the role field researchers play in protecting great apes—by bringing information about great apes to a broader public; by protecting them from immediate threats in the form of poaching and habitat destruction; by educating local human communities about the value of the apes; and by working to protect their habitat and the other wildlife that live in the habitat—the benefits of establishing long term field sites generally appear to outweigh the costs, at least for now. (Gruen et al. 2013: 26)

As is clear from the above account, rather than unconditional support, habituation as a means to facilitate research and accrue other benefits is supported by an intricate cost-benefit analysis. The forms of harm involved are weighed against other relevant considerations in order to then promote conservation among other goods. If not for research and eco-tourism, we would already have lost many more great apes, even entire species. This is the reason why Jane Goodall, for example, has implemented and promoted community-based strategies to conservation, involving local communities and allowing for eco-tourism to buttress the economic sustainability of conservation efforts (cf. Gruen 2011: 176).

Tension exists between the various objectives at play. Tourism can involve financial incentives that work against the goals set by conservation. For instance, limits set on the numbers of visitors allowed per day as well as on the human-ape distance can be put under pressure: more tourists imply more revenue and permitting less than a 7 m distance between humans and apes may be more attractive as a wildlife experience. Moreover, tourism itself involves unmistakable risks as large numbers of people from across the globe enter into the habitat of great apes (Hanes et al. 2018). These dangers are difficult to quantify, but in general terms it is apparently safe to state that less, or even no tourism at all, significantly reduces the threat of human-borne infectious disease. The human-ape interface represents a key interspecies determinant of great ape health and complements concern for the ecological determinants in terms of ecological space.

Is there any reason to take issue with the account of Gruen and her colleagues? Although it presents an admirably nuanced approach, we must remain aware of the concessions or trade-offs made in order to achieve certain conservation goals as becomes particularly relevant in the light of Cavalieri and Singer's Great Ape Project, which pushes forward a rights-based view in order to protect apes as individuals. If individuals bear moral value in terms of rights, the careful cost-benefit analysis Gruen c.s. describes gains less traction. Whereas at present tourism, for example, appears unmistakably necessary and important in economic terms (supporting local livelihoods, safeguarding conservation), such necessity could deflect attention from the way in which habituation as well as other aspects of tourism affects individual great apes and puts them at risk.

Maybe little can be done at present, especially in the face of the crippling poverty and health vulnerabilities experienced by local communities. Contemplating on these issues from a rights perspective can nonetheless serve to shape any future human-ape interactions.

Can habituation be justified? To answer this question, we must first look into the interests of the apes themselves. If habituation does indeed serve their interests, a possible justification of subjecting them to the process of habituation is established.

Research may positively contribute to the well-being of great apes by unraveling knowledge pertaining to their lives, and subsequently put this knowledge into practice. The question now arises: what if such research is not necessary when viewed from the perspective of the interests of the apes? Certain research may be vital, while other research is more fundamental in nature, not generating (immediate) benefits. It therefore depends on the type of research, and it is not immediately obvious that field research is in the interests of great apes themselves. Researchers must explicate their objectives and the moral significance these bear.

Tourism may indirectly contribute to the interests of great apes by (a) supporting protective measures and conservation efforts and (b) fostering support and involvement of local livelihoods. At the same time however significant threats to the health of great apes in terms of risks of transmission of human-borne infectious disease are imposed. How the risks compare between field research and tourism remains an empirical question. At any rate, the benefits of tourism appear derivative while the costs are evident. It would be out of the ordinary to say that tourism is in the interests of the great apes directly. If there was to be no financial benefit from the practice of tourism, then it is unclear which benefits accrue from subjecting great apes to tourists. One could attempt to claim that tourism fosters awareness in the visitors to great apes in their own habitat. It remains nevertheless unclear if tourism is the only means to foster such awareness, nor if such a wildlife experience has a tremendous and unexchangeable impact. To conclude, tourism does not directly benefit great apes and also imposes significant threats to their health.

Perhaps habituation lies in the interests of great apes in the ways it creates the opportunity to monitor, protect and promote their health. Habituation is generally put in terms of research and tourism. From the perspective of the great apes themselves however health measures perhaps benefits the most. Does the harm of habituation weigh up against the benefits in terms

of the ability to monitor and promote health? This question is by far the most relevant when considering if habituation in itself is ethically justified from the perspective of great apes themselves.

7.7 Considering isolated peoples

The tension between the individual entitlement to health care and freedom to a certain degree mirrors the discussion on whether or not one should initiate contact with those very rare, non-modern, pre-state type human communities with few contacts with modern industrialized states or the global economy etc. Exploring the similarities and differences between dealings of modern societies with isolated peoples and great apes living in the wild serves to further specify obligations to both parties.⁹⁵

What are isolated peoples in terms of health policy owed? On the one hand, they lack access to modern medicine and health care. Considering their interest in health, they also hold a *prima facie* right to health, challenging health policy to include their health needs, for example by providing vaccines against standard threats to health as well as securing their ecological space. On the other hand, the numerous afflictions that trouble humans residing in the “developed” and “developing” world are alien to isolated peoples. Threats to the health of the inhabitants of “modern societies” often evolve from a specific human-made socio-ecological context. In comparison, perhaps the majority of threats to the health of isolated peoples consist of elementary infections and forms of injury rather than communicable diseases.⁹⁶ This assessment should not be read to discount the threats to health they face e.g., the (relative) high rates of child mortality and death due to bacterial infections (Walker et al. 2015). These afflictions which deserve careful consideration and should be treated by all feasible means underline the difficulty of comparing health across context. Depending on the context, different health threats are faced.

⁹⁵ Comparing isolated peoples with great apes in the wild could be objected against as being derogatory. Upon further inspection, this comparison has no undesired consequences. Judging our ethical intuitions and theories across contexts and species is helpful in itself. In addition to bringing out similarities I have also provided discrepancies relevant to our obligations in terms of health policy. The same objection would apply to comparing our obligations to great apes living in modern societies with our obligations towards humans in society, which I do not consider as problematic in and of itself either.

⁹⁶ Needless to say, no or limited communication with isolated peoples explains the dearth of knowledge pertaining to their lives and well-being.

Initiating interaction with isolated peoples very likely entails two distinct threats to their health. Firstly, they lack any previous exposure (either by social contact or by means of immunization) to infectious agents common and relatively benign to humans in modern societies. The same applies to great apes with respect to reverse zoonotic diseases. Contact can have devastating consequences, even if all reasonably possible, medical precautionary measures are taken (Ferreira & Castro 2015). Secondly, isolated peoples are particularly vulnerable to communicable diseases once interaction with the outer world has been established. Recent integration into modern societies puts indigenous communities at risk in several ways. Present-day societies impose specific and significant health threats by means of their distinctive environments; such threats often disproportionately endanger the health of the socio-economically disadvantaged (Valeggia & Snodgrass 2015).

Although seclusion characterizes isolated peoples and great apes living in the wild, a notable difference can be observed too. For, it is not evident that great apes are autonomous. Autonomy is central to the human right to be left alone, to determine their own course. Isolated peoples have every right to refuse the interference of humans living in modern societies, however benign their intentions may be. As humans they have the ability not only to devise their own life plans but also to bar interference from others if they wish to do so. Shared humanity, dealt out in terms of autonomous agency, affects interactions between isolated peoples and modern societies, which in turn curbs benevolent actions, as these deeds require consent or request. People living in modern societies should not implement vaccination strategies in order to benefit the health of isolated peoples without consulting them first. Just because it lies in their interests from one point of view does not make it permissible or required to do so. Rather, a specific form of communication channel is necessary in order to discuss the risks and the supposed benefits.⁹⁷

This assessment reveals a significant difference with great apes living in the wild whereby they are not sovereigns in the relevant sense, nor do they have the right to be left alone. At the same time, the lack of autonomy does not immediately entail any unbridled paternalism. As argued, agency comes in various degrees, and great apes display high levels of agency. This

⁹⁷ Within another context, consider humans living in modern societies who hold the liberty to reject immunization. If we accept autonomy as the ground for such liberty, we should do the same with regard to people living outside of society.

phenomenon translates in duties imposed upon us with respect to the capability of these apes to make meaningful choices about their own lives.

Measures aimed at protecting the health of these apes, however, can permissibly limit the scope of their freedom. Whereas isolated peoples need to be contacted before implementing vaccination strategies, matters notably differ with regard to great apes living in the wild. Although this is troubled by practical considerations, in principle we should protect them against standard threats by means of vaccination. If it is possible to significantly improve their health, the fact we cannot ask for their permission to do so should not prevent us from taking action if the risks are acceptable. The agency of great apes provides them with ample capacity to devise their own lives. Nevertheless, considering their restricted health agency, we should not hesitate to protect them against standard health threats. In other words, their health interests and a lack of health agency overrides the right to be left alone.

If we reflect upon habituated great apes, however, the comparison with isolated peoples falters. Contact has been thoroughly established by means of gradual exposure to human presence, resulting in what is sometimes considered indifference with regard to humans at close proximity (cf. Klailova et al. 2010). Rather than asking the question if interaction is permissible or required, the question becomes: to what extent should habituation be maintained?

7.8 What about already habituated great apes?

If habituation is harmful as a procedure itself, the damage has already been done. Newly born apes would not experience the absence of humans, nor find their presence alarming or threatening. These apes are born into a specific social context that includes frequent interaction with humans. Thus, while the harm of habituation appears substantial for those setting off from an unhabituated state, the damage would be much less for those born into it, as they do not have to go through the stress associated with the process.

Does the state of being habituated, irrespective of the process of habituation, involve harm? Considering the described effects of habituation, I deem it not controversial to understand habituation as being a form of damage. Habituation sets back the interests of those involved by causing stress, fear and behavioral changes. To what extent, then, are individuals born into a habituated community harmed?

Imagine two perspectives on the above question. Person A argues that such individuals are not harmed, because they do not suffer from the presence of humans. Person B advocates that we should stop tourism immediately in order to return them to the wildest state possible. Person A is primarily concerned about the direct harm of habituation in terms of fear and stress. The extent to which ape agency is affected is much less of a concern to Person A. Person B, however, is primarily interested in a specific form of ape agency, whereby a completely wild state is warranted. Even if apes born into a habituated community would not experience stress and fear from human presence, the human-ape interaction is erroneous as it removes the opportunity from these young apes to live in the wild. Being born into a habituated collective restricts one's range of opportunities, especially if diminishing human presence would be feasible in and of itself.

The following can be said about both accounts. In agreement with Person A, the direct harm caused by habituation is plausibly much more serious than the way it affects the agency of apes. However, this outcome does not release us from carefully assessing the state of habituation and/or the way it affects the lives of great apes in terms of their agency. There may very well be more to the harm which habituation causes than the physiological response of the apes subjected to it. As Person B advocates, humans significantly shape the lives of habituated apes, a restriction of opportunities that could damage as well as violate their rights. However, Person B understands this restriction of opportunities in terms of the natural behavioral repertoire that apes should display. It is not so much the absence of a natural state, or the presence of humans, but the restriction of agency that is ethically problematic. In other words, the unnaturalness should not concern us but the restriction of opportunities that may accompany habituation. Therefore, even apes born into a habituated community without having to experience the direct negative impact of the process of habituation could very well be harmed in the way their lives are restricted.

The following issue is: can we ethically justify retaining the state of habituation, and if so, for which purpose?⁹⁸ Perhaps, rather than limiting the opportunities of great apes, a state of habituation could also be understood as a broadening of the range of opportunities, especially

⁹⁸ One could argue that, assuming that habituation is harmful, habituated apes deserve reparations. Their rights have been violated and we must redress the harm they suffered. However, I do not immediately see how the interest-based theory of rights as developed in the present thesis would require such redressing.

if interaction with humans is not deemed to be avoided. In particular young apes may enjoy human presence, hereby triggering their curiosity. The process of habituation does however force apes to grow accustomed to humans, which makes the state of habituation more of an adaptive preference rather than a preference arising more from the apes themselves. We should enable individuals to develop, explore and pursue their preferences as much as possible. Imposing a certain form of human-ape interaction upon great apes will distort this endeavor, which is the reason why we should regard the state of being habituated as possibly involving adaptive preferences. Based on the right of freedom of opportunity, habituated apes should be permitted to express their macro-agency, determining themselves the extent to which humans may affect their lives. To answer the question whether it is ethically justified to maintain a state of habituation: to what extent any habituation should be sustained mainly depends on the apes themselves.

Should we then entirely liberate apes from human interference? Contrary to Person B, I do not argue for a particular set of behavioral patterns; in other words, a natural life. We should rather take care not to restrict the range of opportunities in an unreasonable manner. Furthermore, to some extent, restriction of agency is allowed in the light of efforts to safeguard health. Individual great apes have an interest in health as well as in developing and exploring their agency. They should thus be liberated from human interference to the extent their range of opportunities suffices whereby the protection against standard threats to their health is enjoyed.

What do these ethical considerations on habituation entail for the permissibility of tourism? Already habituated great apes should be allowed the opportunity to, over time, avoid the presence of tourists, as tourism cannot be understood to be in their interests. Rather than only assessing the risks of tourism in terms of disease transmission, which is reflected by discussions on the minimum distance, on vaccinating tourists, and on the number of visitors (Hanes et al. 2018), we should also look into tourism as a possible harmful restriction of great ape agency, as goes for research. Non-beneficial research is difficult to justify in the light of the interests of great apes. Beneficial research should be aligned with the aim of facilitating ape agency. The low-impact presence of a minimal number of health professionals is in their interests, assuming they do not impose more risks than they avert or restrict agency unnecessarily.

In sum, habituation is not in the interests of great apes. The harm and risks involved cannot be justified in themselves, as these apes have rights not to be made to suffer and to freedom of opportunity. The intentions of habituation do not reflect the interest of individual great apes *per se*. Field research can benefit these apes but need not do so. For instance, fundamental research need not generate any concrete benefits to the apes themselves. Tourism is relevant in how it creates revenues as well as a willingness to support conservation but in itself does not arise out of the interests of these apes. In addition, it is not only associated with significant risks to great ape health but also subjects them to human presence without seriously offering them any chance to avoid such interspecific interaction. While non-habituated apes could benefit from habituation in terms of health measures (e.g. vaccination, *in situ* health care), we have to balance their interests in health and agency, translating *prima facie* rights into concrete ones. In that sense, the possible health benefits of being habituated appear to become compelling as a reason to habituate only when the health of unhabituated great apes is significantly threatened (cf. Robbins et al. 2011). Given the tremendous impact of habituation, and the risks involved of increased interaction at the great ape / human interface (interspecies determinants of health), few opportunities for concrete rights to health (with the exception of, at the level of ecological determinants of health, safeguarding ecological space and perhaps the implementation of novel innovations in medical technology) are expected to arise for non-habituated great apes.

Things are different for great apes who are member of already habituated populations. Further research into the impact of human presence on already habituated apes is necessary in order to avoid any on-going harm from staying unnoticed, especially when habituation is assumed to instill indifference regarding human presence (cf. Klailova et al. 2010). Whether frequent visits of humans actually harm great apes remains in part an empirical question, but nonetheless should not be limited to the measurement of biological parameters. Human presence impacts the lives of these apes and determines their behavior to a certain degree, possibly restricting their agency. A need exists to evaluate the impact of human presence on these other aspects of their lives, including but not limited to for example biological parameters pertaining to stress. Great apes should be able to negotiate their interactions with humans, which involves a change of perspective regarding human-ape interaction, whereby humans are challenged to facilitate ape agency as much as reasonably feasible alongside considering possibilities to promote their health.

7.9 Concluding remarks

Chapter 7 has added more details to the concept of a right to health of great apes in various contexts. To begin, those great apes living within human societies should have their health needs met as a matter of justice. Securing the health needs of individual great apes should not rely merely on undoing injustice, for instance, having been subjected to invasive research. Instead, the health interests of great apes themselves would require us to shape our relevant institutions in order to reflect the health entitlements of humans and great apes alike. Citizenship is not a necessary condition for the right to health and its corresponding duties. We should take the health interests of great apes living in the wild into account, for example by safeguarding their ecological space and considering whether vaccination against the Ebola virus disease is feasible and realistic in terms of human fallibility. Three distinct motivations could underlie the endeavor to vaccinate, to wit, the protection of human health, conservation, and individual health needs of great apes. Recent discussions of vaccinating against Ebola virus disease largely neglect the latter motivation.

In principle, if feasible and with acceptable risks, the interests in health of great apes in the wild entails we should vaccinate them to protect them against standard health threats. On an interest-based rights approach, we should favor a preventive attitude towards vaccination, if possible. For, a reactive one could be based either on non-anthropocentric values or the value of collectives. Nevertheless, even on the proposed interest-based approach, other concerns may very well require a reactive attitude instead.

What precedes the actual immunization? Which level of harm to others is justified when pertaining to the aim to protect others against threats posed by infectious diseases? I have argued that the moral status of great apes imposes prohibitions with regard to subjecting them to medical research. Similar to the interdiction of subjecting humans to research the risks, costs and possible benefits of which they cannot understand, great apes should not be enrolled in medical research for the same reason. Criticizing the principle of benefitting other members of one's own species for mistakenly deeming either species- or group membership as morally relevant, I subsequently reject the principle as a possible justification for enrolling captive great apes for the sake of conservation or even to the benefit of other individuals belonging to the same species. As to utilizing great apes in research aimed at the benefit of humankind, a ban on this practice should be sustained, even in the face of devastating spread of infectious

diseases. Instead of creating exceptions, an interest-based theory of rights arguably requires a widening of scope to include non-hominid species as well.

The health of great apes in the wild can be promoted beyond vaccination, for example, by including health monitoring and a range of health measures. These procedures are almost only feasible if the great apes in question have been habituated, implying a (supposed) state of indifference concerning human presence resulting from a gradual exposure over time (cf. Klailova et al. 2010). In order to determine the demands of the right to health in terms of in situ health measures, we must first consider whether habituation is justified. This assessment involves the following ethical questions: (a) if and/or when is habituation justified and (b) under which conditions should the state of habituation be sustained?

Habituation clearly impairs those subjected to it. For, the stress and fear it causes continue for a long time, as do the associated risks (e.g., diseases, vulnerability to poaching, conflict), or interspecies determinants of health, generally involve increased human-ape interaction. That is why few opportunities for promoting health are expected to arise, and even the health interests of great apes themselves does not prompt habituation.

In the case of habituated apes, the harm caused by habituation has already been inflicted. The extent to which this habituation involves apes expressing indifference towards human presence should not be taken at face value but carefully determined through research. In addition to such investigations, we should also present the apes themselves with the opportunity to determine the extent of human-ape interaction. Tolerance to tourism, for example, may very well prove to be an adaptive preference, obfuscating the interests of great apes themselves. This outcome does not necessarily entail severing all ties, as interests in health may suffice to maintain the low-level presence of medical professionals.

By way of a conclusion, with regard to vaccination, in principle we should vaccinate great apes in the wild for the sake of their own individual health interests. In practice, however, fallibility, feasibility, as well as concerns regarding subjecting captive conspecifics to medical research restrict the likelihood of actually immunizing great apes in the wild against standard health threats. Technological advancements may ultimately play an important role in facilitating such interventions in the future.

8. General Conclusion

The idea of One Health (OH) reveals how the ecological and the interspecies determinants of health irrevocably cross the boundaries of nation states, hereby highlighting the interdependence of humans across the globe. Emerging infectious diseases (e.g., Ebola virus disease) can travel across the globe rapidly as a result of the infrastructure of a globalized economy. The effects of ecosystem deterioration and collapse range far and wide whereby the political construct of nation states is disregarded. A public health understanding that omits ecological and interspecies interrelations thus proves to be radically incomplete in both descriptive and moral terms. A broadening of public health is warranted, as human health is inescapably dependent on ecosystem services as well as vulnerable to interspecies threats such as emerging infectious diseases and ecological dysfunction.

The distinct relevance of OH to debates on global health justice becomes apparent: uncovering the ways in which human health is both dependent and vulnerable in terms of ecological as well as interspecies interactions and bringing this to bear on obligations towards non-compatriots in particular. Such stakes take the initiative of OH beyond a mere call for collaboration or beyond a comprehensive description of the interspecies and ecological aspects that impinge on human health. OH, as I have argued, provides us with a framework for establishing an actual interspecies health policy, hereby replacing those public health perspectives that overlook non-human animals as being relevant to human health or as recipients of health justice. Recognizing the relevance of animals to public health largely entails an empirical matter, delineating the relevant causal and comparative relations between human and animal health to then position them against the background of ecological processes. Whether or not health policy needs to attend to non-human animals as a matter of justice is an entirely different issue which is largely absent in discussions on OH.

This thesis comprises an initial step in addressing this hiatus whereby the Great Ape Project is followed up upon, putting pressure on the anthropocentrism of human rights. An interest-based theory or rights has been applied in the course of this endeavor, providing not only a distinct justification of the rights defended by the Great Ape Project but also venturing into other fields of human rights, specifically the right to health. This specific moral right provides us with a highly relevant navigation point, bringing out individual interests in health that demand protection as a matter of justice. It helps to integrate OH into debates on global

justice and also forwards a possible reference point for a truly interspecies health policy. The universal nature of human rights, if paired with a theoretical underpinning in terms of interests, pushes against the boundaries of nation-states and species alike, steering towards an interspecies and cosmopolitan health policy.

What does such an interspecies and cosmopolitan outlook imply for great apes in practice? Importantly, before jumping to conclusions, the argumentation and the claims should be placed into context. The present thesis involves a coherent extrapolation as well as a development of an interest-based theory of rights, and the right to health of great apes in particular. It takes human rights as a starting point, shaping the arguments within a specific theoretical framework. Although argumentation supports the plausibility of this approach, it may prove to be inadequate, incomplete or even incorrect. This possibility should caution direct translation into the real world. If one, however, accepts the assumptions as made explicit throughout the argumentation, the claims not only gain as much traction as they foreseeably can but also deserve genuine consideration. If the claims are acceptable, we must then modify our institutions in order to reflect the health interests of great apes, and conceivably even many more animals, as a matter of justice. Having expressed these caveats, we can now turn to these new perspectives.

First and foremost, this thesis continues the work of the Great Ape Project by exploring positive obligations in relation to basic interests. The human rights framework goes beyond negative rights, especially as to the following theory of rights endorsed in this thesis (see chapter 3): “Individuals have a right if and only if one’s interests suffice to impose duties on others”. This statement does not restrict rights to the domain of negative rights, if such a distinction is indeed tenable at all but rather places the burden of proof on potential duty holders in order to justify whether the interests of others are sufficient or not. While certain individuals will only consider protection of interests in terms of negative rights to suffice, others deem it to be the case that humans have specific interests (e.g., health) that require positive obligations. The plausibility of acknowledging positive human rights opens up a possibility for acknowledging such interests in great apes, too, much like the rights already argued for by means of the Great Ape Project. In order to utilize this opportunity, the right to health is not only discussed in detail but also brought to bear on the interests of great apes.

Secondly, what does the right to health involve for great apes? This issue is not clear-cut and unexplored territory with regard to animals in general. The aim of the thesis is not to defend a particular version of the right to health but to investigate if the idea also applies to great apes. The right to health is understood in terms of protection against standard threats (Wolff 2012a), indeed a rather modest formulation. I have argued that health is at least instrumentally valuable both in avoiding pathology and in having access to opportunity, both of which translate to great apes and in turn lead to new questions.

In the third place, how should we balance the demand of the right to liberty and the right to health? This issue requires a discussion on the right to liberty – one of the rights the Great Ape Project defends – and its relation to the capacity for autonomy. While often theorists regard great apes autonomous or share this claim from a precautionary viewpoint, I set off from the assumption that they lack such cognitive capacity, so as to explore a minimal account. My suggestion is that we should understand interests in terms of a subjective endorsement placed against the background of a reasonable range of opportunities. Rather than liberating apes based on their right to liberty, we should offer these apes a reasonable range of opportunities hereby facilitating their determination of the appropriate latitude for themselves; respecting ape agency. Protecting against standard threats to health should be viewed in tandem with the entitlement of having access to a reasonable range of opportunities, requiring a balancing of these interests in practice.

In the fourth place, by investigating the right to health from an interspecies perspective, hereby broadening its scope, questions pertaining to content prove inevitable. Does the right to health correlate with access to health care, or does it also include social determinants? No compelling arguments appear to restrict the right to health to a right to health care. However, even when acknowledging social determinants of health, we still overlook a vital assemblage of factors that affect individual health. The OH concept if viewed as the interdependency of human and animal health embedded within ecosystems provides us with a lens with which to gain insight not only into interspecies and ecological determinants of health but also into their mutual interplay. If we were to protect against standard health threats which takes us beyond access to medical care, then consequently threats from an interspecies or ecological origin matter just as much. The right to health of great apes should also include their ecological space. The implications for the content of the human right to health involve an unexpected result of the research, which is primarily focused on relevance of the right to health for great

apes. Although these surprising insights for this reason remain slightly tentative, I do believe them to be promising.

In the fifth place, by starting off from the interests of individual great apes as a matter of health policy, we must evaluate contemporary ways of funding care for great apes. Providing care frequently relies on charity and/or the reparation of physical injuries suffered during previous medical research. Although both factors are important in terms of responsibility, they do not paint a complete picture. Reparation is clearly insufficient, as it only pertains to individuals that have suffered physical injury caused by research. Charity may turn out to suffice when providing adequate care but also triggers questions of distributive justice. Instead, the interests of individual great apes should be considered at the level of health justice. It is unjust to cause such care to (fully) rely on charity, let alone on reparation.

In the sixth place, the right to health of great apes offers new perspectives on the debate on vaccination. Various questions arise in this debate. Can we vaccinate great apes in the wild? This empirical question I assume tenable, if not now, then possibly in the future (Leendertz et al. 2017). Needless to say, there are normative questions, too: Should we vaccinate great apes living in the wild? To what extent is it permissible to enroll great apes in examples of research performed to benefit their conspecifics in the wild? These issues are often considered from the perspective of conservation, which is understandable considering the extent to which great ape populations are endangered.⁹⁹ However, if the Great Ape Project is correct when it emphasizes the moral rights of the individual, then conservation requires not only measures in order to ensure the survival and sustainability of populations but also protection of great apes as individuals, for example, by safeguarding their health against standard threats. The debate on vaccination strategies should not be restricted to species and populations only but should also pay attention to the individuals involved. Such a shift in perspective affects both our treatment of confined apes and of those living rather independent lives. Starting with the former, pressure is put on the idea to subject great apes to invasive research so as to benefit their wild conspecifics. Great apes cannot consent to medical research nor can they reflect upon the possible benefits to conspecifics, hereby rendering research of no benefit to the individual herself questionable. Moreover, the right to health protects confined apes against

⁹⁹ All non-human hominid species are either endangered or critically endangered.
<https://www.iucnredlist.org/search/grid?query=Great%20Apes&searchType=species> [accessed 5 February 2020].

threats to their health as it does to the right not to be tortured as argued for by means of the Great Ape Project. As to the apes living in the wild, we must consider the extent to which we can protect these animals against standard health threats. Even if deemed not necessary for the survival of species or for other conservation goals, and in case we can – assuming it proves feasible and does not make matters worse – protect the health of those individuals who reside in the vicinity of intermingled human-animal societies, or even of great apes living more remotely, the right to health requires us to do so. Such an imperative also pertains to opportunities for rescue as well as rehabilitation, even if eventual release into the wild would prove to be impossible.

Ushered by a OH perspective to integrate the wild with the lab, we stumble upon a paradox. We must protect the health of individuals in the wild for example by means of vaccination while at the same time development of vaccinations by enrolling conspecifics in research and vaccine trials lacks justification. Are there any alternatives? Enrolling other species such as monkeys is controversial both from an epistemic (regarding the possibility of transferring health knowledge across species) and an ethical viewpoint (whereby the difference in interests between great apes and other animals (e.g., monkeys) does not appear to be categorical). The application of non-animal-based models may become a useful possibility when dealing with this issue in the future. Another opportunity is to consider results from the regrettable history of research on great apes, which has provided a variety of vaccines that could prove valuable for the sake of great apes themselves.

In the seventh place, does the conflict between freedom and health in the wild entail confinement in order to safeguard health? I advocate a middle ground, which does not deem full independence to be necessary, nor does it collapse into captivity. We must equipoise the interests in health against the right to freedom of opportunity. This balancing act cannot be adjudicated by means of a utilitarian calculation or a reference to group-membership. The rights to freedom of opportunity and to health belong *prima facie* to the individual, whereby a specification into concrete rights is required. Inevitably contextual, but not in the sense of differentiating between the contexts of human-animal interactions and/or distinguishing between these contexts in terms of obligations. In other words, context does not determine if we have obligations but contributes to specifying duties imposed by sufficiently important interests of the individual.

Striking a balance between health and freedom at the human-ape interface prompts variegated issues regarding human presence. Human presence is not prohibited in principle but needs to be evaluated against the background of the competing interests concerning the health and freedom of great apes. Whereas tourism is of vital importance to local livelihoods or even to the economic strength of an entire nation-state, it is not in the interests of the great apes themselves. Further research may or may not be necessary in the light of these interests. Habituation generally involves stress over a relatively lengthy time span. Perhaps especially with regard to configuring a human-ape interface in the future, we must ask ourselves what interacting with great apes in a sustainable and responsible way requires. With respect to agency, in terms of freedom of opportunity, great apes should be able to explore ways of living that involve either less interaction with humans or even more interaction, if they genuinely choose to do so. With respect to health, we must carefully assess the risks and possible benefits pertaining to a great ape health caused by human presence, gauging both interspecies and ecological determinants of health, to then adjust the human-ape interface accordingly.

Bibliography

- Akhtar, A. 2012. *Animals and public health. Why treating animals better is critical to human welfare*. Hampshire, UK: Palgrave Macmillan.
- Akhtar, A. 2015. "The flaws and human harms of animal experimentation". *The Cambridge Quarterly of Healthcare Ethics*, 24(4), 407-19.
- Andrews, K. 2013. "Ape Autonomy? Social norms and moral agency in other species" in: Petrus, K. & Wild, M. (eds.), *Philosophical Perspectives on Animals: Mind, Ethics, Morals*, 173-98. Bielefeld: transcript Verlag.
- Ashford, E. 2007. "The duties imposed by the human right to basic necessities" in: Pogge, T. (ed.), *Freedom from Poverty as a Human Right: Who Owes What to the Very Poor?* Oxford University Press, 183-218.
- Bailey, J. 2008. "An Assessment of the Role of Chimpanzees in AIDS Vaccine Research", *Alternatives to Laboratory Animals (ATLA)*, 36 (4), 381-428.
- Barnhill, A., Joffe, S. & Miller, F.G. 2016. "The Ethics of Infection Challenges in Primates", *Hastings Center Report*, 46 (4), 20-6.
- Barrett, M.A. & Osofsky, S.A. 2013. "One Health: interdependence of people, other species, and the planet" in: Katz, D.L., Elmore, J.G., Wild, D.M.G. & Lucan, S. (eds.), *Jekel's Epidemiology, Biostatistics, Preventive Medicine, and Public Health*, 364-77. Philadelphia: Elsevier Inc.
- Barrett, M.A. & Bouley, T.A. 2014. "Need for Enhanced Environmental Representation in the Implementation of One Health". *EcoHealth*, 12(2), 212-9.
- Bausch, D.G. & Schwarz, L. 2014. "Outbreak of Ebola Virus Disease in Guinea: Where Ecology Meets Economy". *PLoS Neglected Tropical Diseases* 8(7), e3056.
- Baxter, B. 2004. *A Theory of Ecological Justice*. London: Routledge.
- Beauchamp, T.L. & Wobber, V. 2014. "Autonomy in chimpanzees". *Theoretical Medicine and Bioethics*, 35(2), 117-32.
- Benatar, S. 2015. "Explaining and responding to the Ebola epidemic", *Philosophy, Ethics, and Humanities in Medicine*, 10: 5.
- Berkey, B. 2017. "Prospects for an Inclusive Theory of Justice: The Case of Non-Human Animals". *The Journal of Applied Philosophy*, 34(5), 679-95.
- Brundtland, G.H., Khalid, M., Agnelli, S. & Al-Athel, S. 1987. *Our Common Future*. New York: Oxford University Press.
- Brussoni, M., Gibbons, R., Gray, C., Ishikawa, T., Sandseter, E., Bienenstock, A., ...Tremblay, M.S. "What is the Relationship between Risky Outdoor Play and Health in

- Children? A Systematic Review". *The International Journal of Environmental Research and Public Health*, 12, 6423-54.
- Callicott, J.B. 1995. "The Value of Ecosystem Health", *Environmental Values*, 4, 345-61.
- Caney, S. 2010. "Climate change, human rights and moral thresholds" in: Humphreys, S. (ed.), *Human Rights and Climate Change*, 69-90. Cambridge: Cambridge University Press.
- Capps, B. & Lederman, Z. 2015. "One Health, Vaccines and Ebola: The Opportunities for Shared Benefits", *The Journal of Agricultural and Environmental Ethics*, 28, 1011-32.
- Capps, B. & Lederman, Z. 2016. "Responding to a Public Health Objection to Vaccinating the Great Apes", *The Journal of Agricultural and Environmental Ethics*, 29, 883-95.
- Cardinale, B.J., Duffy, J.E., Gonzalez, A., Hooper, D.U., Perrings, C., Venail, P., ...Naeem, S. 2012. "Biodiversity loss and its impact on humanity". *Nature*, 486 (7401), 59-67.
- Carson, R. 1962. *Silent Spring*. Boston: Houghton Mifflin.
- Clayton, J.B., Vangay, P., Huang, H., Ward, T., Hillmann, B.M., Al-Ghalith, G.A., ...Knights, D. 2016. "Captivity humanizes the primate microbiome". *Proceedings of the National Academy of Sciences of the United States of America*, 113(37), 10376-81.
- Cliquet, F., & Aubert, M. 2004. "Elimination of terrestrial rabies in Western European countries", *Developments in Biologicals*, 119, 185-204.
- Cochrane, A. 2007. "Animal rights and animal experiments: An interest-based approach", *Res Publica*, 13(3), 293-318.
- Cochrane, A. 2009. "Do animals have an interest in liberty?". *Political Studies*, 57(3), 660-79.
- Cochrane, A. 2012. *Animal Rights Without Liberation. Applied Ethics and Human Obligations*. New York: Columbia University Press.
- Cochrane. 2013a. "Cosmozoopolis: The Case Against Group-Differentiated Animal Rights". *Law, Ethics and Philosophy*, 1(1), 127-41.
- Cochrane, A. 2013b. "From human rights to sentient rights". *Critical Review of International Social and Political Philosophy* 16(5), 655-75.
- Cochrane, A. 2016. "Life, Liberty, and the Pursuit of Happiness? Specifying the Rights of Animals" in: Višak, T. & Garner, R. (eds.), 201-15, New York: Oxford University Press.
- Coeckelbergh, M. 2009. "Distributive Justice and Co-Operation in a World of Humans and Non-Humans: A Contractarian Argument for Drawing Non-Humans into the Sphere of Justice". *Res Publica*, 15(1), 67-84.

- Cooke, S. 2017. "Animal Kingdoms: On Habitat Rights for Wild Animals". *Environmental Values*, 26(1), 53-72.
- Coutts, C., Forkink, A. & Weiner, J. 2014. "The portrayal of natural environment in the evolution of the ecological public health paradigm". *The International Journal of Environmental Research and Public Health*, 11(1), 1005-19.
- Cranfield, M., & Minnis, R. 2007. "An integrated health approach to the conservation of Mountain gorillas *Gorilla beringei beringei*". *Animal Health and Conservation*, 41, 110-21.
- Crisp, R. 2001. "Well-being", in: E.N. Zalta *The Stanford Encyclopedia of Philosophy* (Summer Edition)
- Crockford, C., Wittig, R.M. & Zuberbühler, K. 2015. "An intentional vocalization draws others' attention: a playback experiment with wild chimpanzees". *Animal Cognition*, 18, 581-91.
- Daniels, N. 2007. *Just Health: Meeting Health Needs Fairly*. Cambridge: Cambridge University Press.
- Daszak, P., Cunningham, A.A. & Hyatt, A.D. 2000. "Emerging infectious diseases of wildlife - threats to biodiversity and human health", *Science*, 287(5452), 443-9.
- De Santis, O., Audran, R., Pothin, E., Warpelin-Decrausaz, L., Vallotton, L., Wuerzner, G., ... Genton, B. 2016. "Safety and immunogenicity of a chimpanzee adenovirus-vectored Ebola vaccine in healthy adults: a randomised, double-blind, placebo-controlled, dose-finding, phase 1/2a study", *The Lancet Infectious Diseases*, 16(3), 311-20.
- De Waal, F.B.M. 2005. "Intentional deception in primates". *Evolutionary Anthropology: Issues, News, and Reviews*, 1(3), 86-92.
- Degeling, C., Lederman, Z. & Rock, M. 2016. "Culling and the Common Good: Re-evaluating Harms and Benefits under the One Health Paradigm". *Public Health Ethics*, 9(3), 244-54.
- DeGrazia, D. 1996. *Taking animals seriously: mental life and moral status*. New York: Cambridge University Press.
- DeGrazia, D. 2007. "The harm of death, time-relative interests, and abortion". *Philosophical Forum*, 38(1), 57-80.
- DeGrazia, D. 2008. "Moral Status as a Matter of Degree?". *The Southern Journal of Philosophy*, 46(2), 181-98.
- DeGrazia, D. 2014. "What is Suffering and What Sorts of Beings can Suffer?" in: Green, R. & Palpant, N. (eds.), *Suffering and Bioethics*, 134-54. New York: Oxford University Press.

- DeGrazia, D. 2016a. "Sentient Nonpersons and the Disvalue of Death". *Bioethics*, 30(7), 511-9.
- DeGrazia, D. 2016b. "Nonhuman Primates, Human Need, and Ethical Constraints". *Hastings Center Report*, 46(4), 27-8.
- Donaldson, S. & Kymlicka, W. 2011. *Zoopolis: A political theory of animal rights*. New York: Oxford University Press.
- Donaldson, S. & Kymlicka, W. 2013. "A Defense of Animal Citizens and Sovereigns". *Law, Ethics and Philosophy*, 1(1), 143-60.
- Donaldson, S. & Kymlicka, W. 2016a. "Linking animal ethics and animal welfare science". *Animal Sentience*: 5(5), 1-4.
- Donaldson, S. & Kymlicka, W. 2016b. "Comment: Between Wild and Domesticated: Rethinking Categories and Boundaries in Response to Animal Agency" in: Bovenkerk, B. & Keulartz, J. (eds.), *Animal Ethics in the Age of Humans*, 225-39. Cham, Switzerland: Springer International Publishing.
- Donaldson, S. & Kymlicka, W. 2016c. "Farmed animal sanctuaries: The heart of the movement?". *Politics and Animals*, 1(1), 50-74.
- Donaldson, S. & Kymlicka, W. 2016d. "Rethinking membership and participation in an inclusive democracy: cognitive disability, children, animals" in: Arneil, B. & Hirschmann, N. (eds.), *Disability and Political Theory*, 168-97. Cambridge: Cambridge University Press.
- Edwards, S.J.L., Norell, C.H., Illari, P., Clarke, B. & Neuhaus, C.P. 2018. "A radical approach to Ebola: Saving humans and other animals". *The American Journal of Bioethics*, 18(10), 35-42.
- Everett, J. 2001. "Environmental Ethics, Animal Welfarism, and the Problem of Predation: A Bambi Lover's Respect For Nature". *Ethics and the Environment*, 6(1), 42-67.
- Fanzo, J. 2015. "Ethical issues for human nutrition in the context of global food security and sustainable development". *Global Food Security*, 7, 15-23.
- Feinberg, J. 1974. "The Rights of Animals and Unborn Generations" in: Blackstone, W.T. (ed.), *Philosophy and Environmental Crisis*, 43-68. Georgia: University of Georgia Press.
- Fenton, A. 2014. "Can a Chimp Say 'No'?" *The Cambridge Quarterly of Healthcare Ethics*, 23(2), 130-9.
- Ferdowsian, H., Durham, D. & Brüne, M. 2013. "Mood and anxiety disorders in chimpanzees (pan troglodytes): A response to Rosati et al. (2012)". *The Journal of Comparative Psychology*, 127(3), 337-40.

- Ferreira, M.U. & Castro, M.C. 2015. "No longer a deadly encounter". *Pathogens and global health*, 109(7), 307-8.
- Fink, C.K. 2005. "The Predation Argument". *Between the Species*, 13(5), 1-16.
- Fink, C.K. 2013. "The Cultivation of Virtue in Buddhist Ethics". *The Journal of Buddhist Ethics*, 20, 667-701.
- Francione, G.L. 2000. *Introduction to animal rights: your child or the dog*. Philadelphia: Temple University Press.
- Fraser, D., Weary, D.M., Pajor, E.A., & Milligan, B.N. 1997. "A scientific conception of animal welfare that reflects ethical concerns". *Animal Welfare*, 6, 187-205.
- Frey, R.G. 1980. *Interests and rights: the case against animals*. Oxford: Oxford University Press.
- Garfield, J.L. 2001. *Empty Words: Buddhist philosophy and Cross-cultural Interpretation*. Oxford: Oxford University Press.
- Garner, R. 2011. "In Defence of Animal Sentience: A Critique of Cochrane's Liberty Thesis". *Political Studies*, 59(1), 175-87.
- Garner, R. 2013. *A Theory of Justice for Animals: Animal Rights in a Nonideal World*. Oxford, UK: Oxford University Press.
- Geuss, R. 2001. *History and Illusion in Politics*. Cambridge: Cambridge University Press.
- Gibbs, E.P.J. 2014a. "The evolution of One Health: a decade of progress and challenges for the future" *Veterinary Record*, 174(4), 85-91.
- Gibbs, P. 2014b. "Origins of One Health and One Medicine", *Veterinary Record*, 174 (6), 152.
- Gilardi, K.V., Gillespie, T.R., Leendertz, F.H., Macfie, E.J., Travis, D.A., Whittier, C.A. & Williamson, E.A. 2015. *Best Practice Guidelines for Health Monitoring and Disease Control in Great Ape Populations*. Gland, Switzerland: IUCN.
- Gilardi, K.V., Oxford, K.L., Gardner-Roberts, D., Kinani, J-F., Spelman, L., Barry, P.A., ...Lowenstine, L.J. 2014. "Human Herpes Simplex Virus Type 1 in Confiscated Gorilla". *Emerging Infectious Diseases*, 20(11), 1883-86.
- Giroux, V. 2016. "Animals Do Have an Interest in Liberty", *The Journal of Animal Ethics*, 6(1), 20-43.
- Goodall, J. 2000. *In the Shadow of Man*. New York: Houghton Mifflin.
- Goodman, C. 2010. "Ethics in Indian and Tibetan Buddhism. *The Stanford Encyclopedia of Philosophy* <https://plato.stanford.edu/entries/ethics-indian-buddhism>.

- Goodpaster, K.E. 1978. "On being morally considerable". *The Journal of Philosophy*, 75(6), 308-25.
- Greek, R. 2012. "Book Review. Zoobiquity: What Animals Can Teach Us About Health and the Science of Healing". *Animals (Basel)*, 2(4), 559-63.
- Griffin, J. 1986. *Well-being: Its Meaning, Measurement and Moral Importance*. Oxford: Clarendon Press
- Gruen, L. 2011. *Ethics and animals: an introduction*. New York: Cambridge University Press.
- Gruen, L., Fultz, A. & Pruetz, J. 2013. "Ethical Issues in African Great Ape Field Studies". *Institute for Laboratory Animal Research (ILAR) Journal*, 54(1), 24-32.
- Hadley, J. 2006. "The Duty to Aid Nonhuman Animals in Dire Need", *The Journal of Applied Philosophy*, 23(4), 445-51.
- Hadley, J. 2015. *Animal Property Rights: A Theory of Habitat Rights for Wild Animals*. U.S.: Lexington Books.
- Hanes, A.C., Kalema-Zikusoka, G., Svensson, M.S. & Hill, C.O.M. 2018. "Assessment of Health Risks Posed by Tourists Visiting Mountain Gorillas in Bwindi Impenetrable National Park, Uganda". *Primate Conservation*, 32, 123-32.
- Hanrahan, C. 2014. "Integrative Health Thinking and the One Health Concept: Is Social Work All for 'One' or 'One' for All?" in: T. Ryan (ed.), *Animals in Social Work*, 32-47. London: Palgrave Macmillan, UK.
- Harper, K.N. & Zuckerman, M.K. 2013. "Primates, pathogens, and evolution: a context for understanding emerging disease" in: Brinkworth, J.F. & Pechenkina, K. (eds.). *Primates, Pathogens, and Evolution*, 389-409. New York: Springer.
- Hausman, D.M. 2015. *Valuing Health: Well-being, Freedom, and Suffering*. Oxford: Oxford University Press.
- Have, H.A.M.J.T. 2012. "Potter's notion of bioethics". *The Kennedy Institute of Ethics Journal*, 22(1), 59-82.
- Haybron, D. 2011. "Happiness" in: Zalta E.N. (ed.), *The Stanford Encyclopedia of Philosophy* (ed.), <http://plato.stanford.edu/entries/happiness/>
- Haynes, R.P. 2008. *Animal welfare: competing conceptions and their ethical implications*. Dordrecht: Springer.
- Hayward, T. 2009. "International Political Theory and the Global Environment: Some Critical Questions for Liberal Cosmopolitans". *The Journal of Social Philosophy*, 40(2), 276-95.
- Hayward, T. 2013a. "Ecological Space: the Concept and its Ethical Significance". *Just World*

- Hayward, T. 2013b. "Ecology, Ethics and Global justice" in: Rozzi R., Pickett, S.T.A., Palmer, C., Armesto, J.J. & Callicott, J.B. (eds.). *Linking Ecology and Ethics for a Changing World*, 231-40. Dordrecht: Springer Netherlands.
- Henao-Restrepo, A.M., Longini, I.M., Egger, M., Dean, N.E., Edmunds, J., Camacho, A., ...Röttingen, J.A. 2015). "Efficacy and effectiveness of an rVSV-vectored vaccine expressing Ebola surface glycoprotein: interim results from the Guinea ring vaccination cluster-randomised trial". *The Lancet*, 386(9996), 857-66.
- Herzog, H. 2011. "The Impact of Pets on Human Health and Psychological Well-Being". *Current Directions in Psychological Science*, 20(4), 236-9.
- Hockings, K.J., McLennan, M.R., Carvalho, S., Ancrenaz, M., Bobe, R., Byrne, R.W., ...Hill, C.M. 2015. "Apes in the Anthropocene: flexibility and survival.". *Trends in Ecology & Evolution*, 30(4), 215-22.
- Hodgson, K., & Darling, M. 2011. "Zooevia: an essential component of 'One Health'". *The Canadian Veterinary Journal*, 52 (2), 189-91.
- Holland, B. 2008. "Justice and the Environment in Nussbaum's 'Capabilities Approach': Why Sustainable Ecological Capacity Is a Meta-Capability". *The Political Research Quarterly*, 61(2), 319-32.
- Horta, O. 2013a. "Zoopolis, intervention and the state of nature". *Law, Ethics and Philosophy*, 1(1), 113-26.
- Horta, O. 2013b. "Expanding Global Justice: The Case for the International Protection of Animals". *Global Policy*, 4(4), 371-80.
- Horta, O. 2014. "The Scope of the Argument from Species Overlap". *Journal of Applied Philosophy*, 31(2), 142-54.
- Huffman, M.A. & Wrangham, R.W. 1994. "Diversity of medicinal plant use by chimpanzees in the wild" in: Wrangham, R.W., McGrew, W.C., De Waal, F.B.M. & Heltne, P.G., *Chimpanzee Cultures*, 129-48. Cambridge, Massachusetts: Harvard University Press.
- Huttner, A., Agnandji, S.T., Combescure, C., Fernandes, J.F., Bache, E.B., Kabwende, L., ... Siegrist, C.A. 2018. "Determinants of antibody persistence across doses and continents after single-dose rVSV-ZEBOV vaccination for Ebola virus disease: an observational cohort study". *The Lancet. Infectious Diseases*, 18(7), 738-48.
- Jamieson, D. 1995. "Ecosystem health: some preventive medicine". *Environmental Values*, 4 (4), 333-44.
- Jamieson, D. 1998. "Sustainability and beyond". *Ecological Economics* 24 (2-3), 183-92.

- Johannsen, K. 2017. "Animal Rights and the Problem of r-Strategists". *Ethical Theory and Moral Practice*, 20 (2), 1-13.
- Jones, K.E., Patel, N.G., Levy, M.A. & Storeygard, A. 2008. "Global trends in emerging infectious diseases". *Nature*, 451(21), 990-4.
- Karan, A. & Pogge, T. 2015. "Ebola and the need for restructuring pharmaceutical incentives". *The Journal of Global Health*, 5(1), 1-4
- Karesh, W.B., Dobson, A. & Lloyd-Smith, J. O. 2012. "Ecology of zoonoses: natural and unnatural histories". *The Lancet*, 380 (9857), 1936-45.
- Kasperbauer, T.J. 2012. "Nussbaum and the Capacities of Animals", *The Journal of Agricultural and Environmental Ethics*, 26(5), 977-97.
- King, L.J., Anderson, L.R., Blackmore, C.G., Blackwell, M.J., Lautner, E.A., Marcus, L.C., ... Mahr, R.K. 2008. "Executive summary of the AVMA One Health Initiative Task Force report". *The Journal of the American Veterinary Medical Association*, 233(2), 259-61.
- Klailova, M., Hodgkinson, C. & Lee, P. C. 2010. "Behavioral responses of one western lowland gorilla (*Gorilla gorilla gorilla*) group at Bai Hokou, Central African Republic, to tourists, researchers and trackers". *The American Journal of Primatology*, 72 (10), 897-906.
- Knight, A. 2011. *The Costs and Benefits of Animal Experiments*. London, UK: Palgrave MacMillan.
- Köndgen, S., Kühl, H., N'Goran, P.K., Walsh, P.D., Schenk, S., Ernst, N., ... Leendertz, F.H. 2008. "Pandemic human viruses cause decline of endangered great apes". *Current Biology*, 18(4), 260-4.
- Korsgaard, C.M. 2013. Kantian ethics, animals, and the law. *The Oxford Journal of Legal Studies*, 33(4), 629-48.
- Krief, S., Cibot, M., Bortolamiol, S., Seguya, A., Krief, J. & Masi, S. 2014. "Wild chimpanzees on the edge: Nocturnal activities in croplands", *PloS One* 9(10).
- Krief, S., Krief, J.-M., Seguya, A., Couly, G. & Levi, G. 2014. "Facial dysplasia in wild chimpanzees", *The Journal of Medical Primatology*, 43(4), 280-3.
- Kuhlwilm, M., de Manuel, M., Nater, A., Greminger, M.P., Krutzen, M. & Marques-Bonet, T. 2016. "Evolution and demography of the great apes". *Current Opinion in Genetics & Development*, 41, 124-9.
- Ladwig, B. 2015. "Against Wild Animal Sovereignty: An Interest-based Critique of Zoopolis". *The Journal of Political Philosophy*, 23, 282-301.
- LaFollette, H. & Shanks, N. 1996. *Brute Science: Dilemmas of Animal Experimentation*. London: Routledge.

- Lake, A. & Townshend, T. 2006. "Obesogenic environments: Exploring the built and food environments", *The Journal of the Royal Society for the Promotion of Health*, 126, 262-7.
- Landers, T.F., Cohen, B., Wittum, T.E. & Larson, E. L. 2012. "A Review of Antibiotic Use in Food Animals: Perspective, Policy, and Potential". *Public Health Reports*, 127, 4-22.
- Lane, M. 2018. "Ancient Political Philosophy" in: Zalta, E.N. (ed.) *The Stanford Encyclopedia of Philosophy* <http://plato.stanford.edu/archives/win2018/entries/ancient-political>
- Lang, T., & Rayner, G. 2012. "Ecological public health: the 21st century's big idea? An essay by Tim Lang and Geof Rayner". *The British Medical Journal*, 345, 1-5.
- Lapinski, M.K., Funk, J.A., & Moccia, L.T. 2015. Recommendations for the Role of Social Science Research in One Health. *Social Science & Medicine*, 129, 51-60.
- Leendertz, S.A.J., Wich, S.A., Ancrenaz, M., Bergl, R.A., Gonder, M.K., Humle, T. & Leendertz, F. 2017. "Ebola in great apes - current knowledge, possibilities for vaccination, and implications for conservation and human health". *Mammal Review*, 47(2), 98-111.
- Levine, G.N., Allen, K., Braun, L.T., Christian, H.E., Friedmann, E., Taubert, K. A., ...Lange, R.A. 2013. "Pet Ownership and Cardiovascular Risk: A scientific statement from the American Heart Association". *Circulation*, 127(23), 2253-63.
- Lonsdorf, E.V., Gillespie, T.R., Wolf, T.M., Lipende, I., Raphael, J., Bakuza, J., ...Travis, D.A. 2016. "Socioecological correlates of clinical signs in two communities of wild chimpanzees (*Pan troglodytes*) at Gombe National Park, Tanzania". *The American Journal of Primatology*, 80(1), e22562.
- Marino, L. & Colvin, C. M. 2015. "Thinking pigs: a comparative review of cognition, emotion, and personality in *sus domesticus*". *The International Journal of Comparative Psychology*, 28(1), 1-21.
- Marzi, A., Murphy, A.A., Feldmann, F., Parkins, C.J., Haddock, E., Hanley, P.W., ...Jarvis, M.A. 2016. "Cytomegalovirus-based vaccine expressing Ebola virus glycoprotein protects nonhuman primates from Ebola virus infection". *Scientific Reports*, 6: 21674.
- McMahan, J. 2016. "The comparative badness for animals of suffering and death" in: Visak, T. & Garner, R. (eds.), *The Ethics of Killing Animals*, 65-85, New York: Oxford University Press.
- McMichael, A.J. 2009. "Human population health: sentinel criterion of environmental sustainability". *Current Opinion in Environmental Sustainability*, 1(1), 101-6.
- McShane, K. 2004. "Ecosystem health". *Environmental Ethics*, 26(3), 227-45.
- Meijboom, F.L.B. & Nieuwland, J. 2017. *Gezondheid in Meervoud: over ethische aspecten bij One Health en de noodzaak tot samenwerking binnen de ethiek*. Utrecht: NVBE.

- Meijboom, F.L.B. & Nieuwland, J. 2018. "Manifold health: the need to specify One Health and the importance of cooperation in (bio)ethics" in: Springer, S. & Grimm, H. (eds.), *Professionals in Food Chains*, 266-271, Wageningen: Wageningen Academic Press.
- Milligan, T. 2015. "The political turn in animal rights". *Politics and Animals*, 1(1), 6-15.
- Minteer, B. 2011. *Refounding environmental ethics: pragmatism, principle, and practice*. Philadelphia: Temple University Press.
- Minteer, B.A. & Miller, T.R. 2011. "The New Conservation Debate: Ethical foundations, strategic trade-offs, and policy opportunities". *Biological Conservation*, 144(3), 945-7.
- Moon, S., Sridhar, D., Pate, M.A., Jha, A.K., Clinton, C., Delaunay, S., ...Piot, P. 2015. "Will Ebola change the game? Ten essential reforms before the next pandemic. The report of the Harvard-LSHTM Independent Panel on the Global Response to Ebola". *The Lancet*, 386 (10009), 2204-21.
- Musschenga, A.W. 2002. "Naturalness: beyond animal welfare". *The Journal of Agricultural and Environmental Ethics*, 15, 171-86.
- Nater, A., Mattle-Greminger, M.P., Nurcahyo, A., Nowak, M.G., de Manuel, M., Desai, T. ...Krützen, M. et al. 2017. "Morphometric, behavioral, and genomic evidence for a new Orangutan species". *Current Biology*, 27, 1-12.
- Nielsen, L. 2014. "Why Health Matters to Justice: A Capability Theory Perspective". *Ethical Theory and Moral Practice*, 18, 403-15.
- Nieuwland, J. & Meijboom, F.L.B. 2015. "One Health as a normative concept: implications for food safety at the wildlife interface" in: Dumitras, E., Jitea, I. & Aerts, S. (eds.), *Know your food: food ethics and innovation*, 132-137, Wageningen: Wageningen Academic Press.
- Nieuwland, J. 2016. "Politics of ecological public health: a Poggean perspective" in: Olsson, A., Araujo, S. & Vieira, F. (eds.), *Food futures: ethics, science and culture*, 400-406, Wageningen, Wageningen Academic Press.
- Nordenfelt, L. 2006. *Animal and human health and welfare: a comparative philosophical analysis*. Wallingford, UK: CAB International.
- Norton, B.G. 2003. *Searching for sustainability*. Cambridge, UK: Cambridge University Press.
- Nussbaum, M. 2007. *Frontiers of Justice. Disability, Nationality, Species Membership*. Belknap Press: An Imprint of Harvard University Press.
- O'Neill, O. 2005. "The dark side of human rights". *International Affairs*, 81(2), 427-39.
- Ohl, F., & Putman, R.J. 2014. "Animal welfare at the group level: more than the sum of individual welfare?". *Acta Biotheoretica*, 62(1), 35-45.

- OIE, Food and Agricultural Organization, & World Health Organization. 2010. "The FAO-OIE-WHO Collaboration: Sharing responsibilities and coordinating global activities to address health risks at the animal-human-ecosystems interfaces. A Tripartite Concept Note". https://www.who.int/foodsafety/zoonoses/final_concept_note_Hanoi.pdf?ua=1.
- Olivero, J., Fa, J.E., Real, R., Márquez, A.L., Farfán, M.A., Vargas, J.M., ...Nasi, R. 2017. "Recent loss of closed forests is associated with Ebola virus disease outbreaks". *Scientific Reports*, 7(1), 14291.
- Outka, G. 1974. "Social justice and equal access to health care". *The Journal of Religious Ethics* 2 (Spring), 11-32.
- Palacios, G., Lowenstine, L.J., Cranfield, M.R., Gilardi, K.V., Spelman, L., Lukasik-Braum, M., ...Lipkin, W.I. 2011. "Human metapneumovirus infection in wild mountain gorillas, Rwanda". *Emerging Infectious Diseases*, 17(4), 711-13.
- Palmer, C. 2010. *Animal ethics in context*. New York: Columbia University Press.
- Parfit, D. 1984. *Reasons and persons*. Oxford, UK: Oxford University Press.
- Patz, J.A., Daszak, P., Tabor, G.M., Aguirre, A.A., Pearl, M., Epstein, J., ...Bradley, J. 2004. "Unhealthy landscapes: policy recommendations on land use change and infectious disease emergence". *Environmental Health Perspectives*, 112(10), 1092-8.
- Peterson, D. 2013. "Talking about Bushmeat", in: M. Bekoff (ed.), *Ignoring Nature No More: The Case for Compassionate Conservation*, 63-76. Chicago: University of Chicago Press.
- Pogge, T. 2009. "Shue on Rights and Duties" in: C.R. Beitz & R.E. Goodin (eds.), *Global Basic Rights*, 113-30. Oxford: Oxford University Press.
- Pogge, T.W. 2001. "Eradicating Systemic Poverty: brief for a global resources dividend". *The Journal of Human Development*, 2 (1), 59-77.
- Pound, P., & Bracken, M.B. 2014. "Is animal research sufficiently evidence based to be a cornerstone of biomedical research?". *The British Medical Journal (Clinical Research Ed.)*, 348, g3387.
- Rabinowitz, P.M.G., Odofoin, L. & Dein, F.J. 2008. "From 'Us vs. Them' to 'Shared Risk': Can Animals Help Link Environmental Factors to Human Health?". *EcoHealth*, 5(2), 224-9.
- Raz, J. 1986. *Morality of Freedom*. Oxford, UK: Oxford University Press.
- Regan, T. 2004. *The case for animal rights*. Berkeley: University of California Press.
- Robbins, M.M., Gray, M., Fawcett, K.A., Nutter, F.B., Uwingeli, P., Mburanumwe, I., ... Robbins, A.M. 2011. "Extreme Conservation leads to Recovery of the Virunga Mountain Gorillas". *PLOS ONE*, 6(6): e19788.

- Rock, M.J., Adams, C.L., Degeling, C., Massolo, A. & McCormack, G.R. 2015. "Policies on pets for healthy cities: a conceptual framework". *Health Promotion International*, 30(4), 976-86.
- Rollin, B.E. 1995. *The Frankenstein Syndrome. Ethical and Social Issues in the Genetic Engineering of Animals*. Cambridge Studies in Philosophy and Public Policy. Cambridge University Press.
- Ruger, J.P. 2010. "Health Capability: Conceptualization and Operationalization". *The American Journal of Public Health*, 100(1), 41-9.
- Rumbold, B.E. 2015. "Review article: the moral right to health: a survey of available conceptions". *Critical Review of International Social and Political Philosophy*, 20(4), 508-28.
- Ryan, S.J., & Walsh, P.D. 2011. "Consequences of non-intervention for infectious disease in African great apes". *PLoS One*, 6.
- Sandoe, P., Palmer, C., Corr, S., Astrup, A. & Bjornvad, C.R. 2014. "Canine and feline obesity: a One Health perspective". *Veterinary Record*, 175 (24), 610-6.
- Savage-Rumbaugh, S., Wamba, K., Wamba, P. & Wamba, N. 2007. "Welfare of Apes in Captive Environments: Comments On, and By, a Specific Group of Apes". *The Journal of Applied Animal Welfare Science*, 10(1), 7-19.
- Schroeder, S.A. 2012. "Rethinking Health. Healthy or Healthier than?" *The British Journal for the Philosophy of Science*, 64, 131-59.
- Schultz, M. 2008. "Rudolf Virchow". *Emerging Infectious Diseases*, 14(9), 1480-1.
- Schwabe, C.W. 1964. *Veterinary medicine and human health*. Baltimore: Williams & Wilkins.
- Schwitzer, C. & Kaumanns, W. 2003. "Foraging patterns of free-ranging and captive primates—implications for captive feeding regimes". *Zoo Animal Nutrition II. Filander Verlag*, 247-65.
- Sen, A. 1983. *Poverty and Famines*. Oxford, UK: Oxford University Press.
- Shanks, N., Greek, R. & Greek, J. 2009. "Are animal models predictive for humans?". *Philosophy, Ethics, and Humanities in Medicine*, 4: 2.
- Shue, H. 1996. *Basic Rights: Subsistence, Affluence, and U.S. Foreign Policy*. Princeton: Princeton University Press.
- Singer, P. 1990. *Animal Liberation: A New Ethics for our Treatment of Animals*. New York: Avon Books.
- Singer, P. 2011. *Practical ethics*. Cambridge, UK: Cambridge University Press.

- Steinfeld, H., Gerber, P., Wassenaar, T. D., Castel, V., Rosales, M., de Haan, C. 2006. *Livestock's long shadow: environmental issues and options*. Food and Agricultural Org.
- Stephen, C. 2014. "Toward a modernized definition of wildlife health". *The Journal of Wildlife Diseases*, 50(3), 427-30.
- Stephen, C. & Karesh, W.B. 2014. "Is One Health delivering results?". *Revue scientifique et technique (International Office of Epizootics)*, 33(2), 375-9.
- Sumner, L.W. 1996. *Welfare, Happiness, and Ethics*. Oxford, UK: Oxford University Press.
- Tasioulas, J. 2007. "The Moral Reality of Human Rights" in Pogge, T. (ed.), *Freedom from Poverty as a Human Right: Who Owes What to the Very Poor?* Oxford University Press, 75-101.
- Tasioulas, J. 2014. "Human Dignity and the Foundations of Human Rights" in: McCrudden, C. (ed.), *Understanding Human Dignity*. Oxford University Press, 293-314.
- Tasioulas, J. & Vayena, E. 2015. "Getting human rights right in global health policy". *The Lancet*, 385, e42-e44.
- Taylor, L.H., Latham, S.M. & Woolhouse, M.E. 2001. "Risk factors for human disease emergence". *Philosophical transactions of the Royal Society of London. Series B, Biological Sciences*, 356 (1411), 983-9.
- Taylor, P.W. 2011. *Respect for Nature: A Theory of Environmental Ethics*. Princeton: Princeton University Press.
- The World Bank. 2010. "People, Pathogens and Our Planet" in: *Towards a One Health Approach for Controlling Zoonotic Diseases*, Vol. 1, 1-74.
- Thomas, N. 2016. *Animal Ethics and the Autonomous Animal Self*. London: Palgrave Macmillan UK.
- Thompson, P.B. & List, M. 2015. "Ebola Needs One Bioethics". *Ethics, Policy & Environment*, 18(2), 96-102.
- Torres, M. 2015. "The Case for Intervention in Nature on Behalf of Animals: a Critical Review of the Main Arguments against Intervention". *Relations: Beyond Anthropocentrism*, 3(1) 33-49.
- Valeggia, C.R. & Snodgrass, J.J. 2015. "Health of indigenous peoples". *The Annual Review of Anthropology*, 44(1), 117-35.
- Valentini, L. 2014. "Canine justice: an associative account". *Political Studies*, 62(1), 37-52.
- Varki, N., Anderson, D., Herndon, J. G., Pham, T., Gregg, C.J., Cheriyan, M., ... Varki, A. 2009. "Heart disease is common in humans and chimpanzees, but is caused by different pathological processes". *Evolutionary Applications*, 2 (1), 101-12.

- Varner, G. E. 1998. *In Nature's Interests? Interests, Animal Rights, and Environmental Ethics*. Oxford, UK: Oxford University Press.
- Venkatapuram, S. 2013. *Health Justice: An Argument from the Capabilities Approach*. Cambridge, UK: Polity Press.
- Verweij, M. & Bovenkerk, B. 2016. "Ethical Promises and Pitfalls of OneHealth". *Public Health Ethics*, 9(1), 1-4.
- Waal, F.B.M.D. 1997. "Are We in Anthropodenial?". *Discover*, 18(7), 50-3.
- Wagner, K., Seitner, D., Barth, K., Palme, R., Futschik, A. & Waiblinger, S. 2015. "Effects of mother versus artificial rearing during the first 12 weeks of life on challenge responses of dairy cows". *Applied Animal Behaviour Science*, 164, 1-11.
- Walker, R.S., Sattenspiel, L., Hill, K.R., King, G. & Mayhall, J. 2015. "Mortality from contact-related epidemics among indigenous populations in Greater Amazonia". *Scientific Reports*, 5: 14032.
- Walsh, P.D., Abernethy, K.A. & Bermejo, M. et al. 2003. "Catastrophic ape decline in western equatorial Africa". *Nature (London)*, 422 (6932), 611-4.
- Walsh, P.D., Kurup, D., Hasselschwert, D.L., Wirblich, C., Goetzmann, J.E., & Schnell, M.J. 2017. "The Final (Oral Ebola) Vaccine Trial on Captive Chimpanzees?". *Scientific Reports*, 7: 43339.
- Warfield, K. L., Goetzmann, J. E., Biggings, J. E., ... Walsh, P.D. 2014. "Vaccinating captive chimpanzees to save wild chimpanzees". *The Proceedings of the National Academy of Science of the United States of America* 111(24), 8873-6.
- Warren, M.A. 1997. *Moral status: Obligations to Persons and Other Living Things*. Oxford, UK: Clarendon Press.
- Weinstock, D.M. 2011. "How should political philosophers think of health?". *The Journal of Medicine and Philosophy*, 36(4), 424-35.
- Weir, A.A.S., Chappell, J. & Kacelnik, A. 2002. "Shaping of Hooks in New Caledonian Crows". *Science*, 297 (5583), 981.
- Wendler, D. 2014. "Should protections for research with humans who cannot consent apply to research with nonhuman primates?". *Theoretical Medicine and Bioethics*, 35(2), 157-73.
- Williamson, E.A. & Feistner, A.T.C. 2011. "Habituating primates: processes, techniques, variables and ethics" in: Setchell, J.M. & Curtis, J.D. (eds.) *Field and Laboratory Methods in Primatology: A Practical Guide*, 33-50. Cambridge, UK: Cambridge University Press.
- Wolff, J. 2012a. "The Demands of the Human Right to Health". *The Proceedings of the Aristotelian Society Supplementary Volume*, 86(1), 217-37.

- Wolff, J. 2012b. *The Human Right to Health*. New York: W.W. Norton & Company.
- Woodford, M.H., Butynski, T.M. & Karesh, W.B. 2002. "Habituating the great apes: the disease risks". *Oryx*, 36(2), 153-60.
- Wynne, C.D.L. 2005. "The emperor's new anthropomorphism". *The Behavior Analyst Today*, 6 (3), 151-4.
- Zimmerman, C., Sturm, M., Ballou, J. & Traylor-Holzer, K. 2006. *Horses of Assateague Island Population and Habitat Viability Assessment: Final Report*. Apple Valley, MN.
- Zinsstag, J. 2012. "Convergence of ecohealth and one health". *EcoHealth*, 9 (4), 371-3.
- Zinsstag, J. & Schelling, E. 2011. "From 'one medicine' to 'one health' and systemic approaches to health and well-being". *Preventive Veterinary Medicine*, 101(3-4), 148-56.

Summary

Disease outbreaks caused by for example highly pathogenic avian influenza virus and Ebola virus have sparked a non-human turn in public health. Non-human animals and ecosystems cannot be sequestered from human health. The interconnection between these domains is emphasized by the notion of One Health, whereby collaboration is endorsed across disciplinary divides in order to adequately safeguard health against a backdrop of interdependency.

Such a broad outlook, however, allows for selective interpretation and moral appropriation. In order to address these issues, I have firstly developed a modest and largely descriptive understanding of One Health, buttressed by means of an overlapping consensus. It is then argued that the lack of engagement with concerns of justice in One Health literature and policy is disconcerting. I point towards human rights, the right to health in particular, as a means to instill a sense of justice in One Health thought and practice. This act itself prompts a reevaluation of such moral rights from both an ecological and interspecies perspective. An interspecies health policy need not only account for animals for their impact on human health but do justice to their interests as well. The thesis follows up on the Great Ape Project (GAP) by setting off from human rights as well as highlighting morally relevant similarities shared amongst human and non-human primates to then question inherent anthropocentrism. The right to health complements the set of basic negative rights defended by GAP.

Needless to say, developing a right to health for both human and non-human primates not only requires a thorough engagement with issues including: moral status, well-being, justification and function of moral rights, the details of a right to health, and the scope of moral obligations. The present thesis defends an interest-based theory of moral rights and falls in line with the theory developed by Alasdair Cochrane, albeit (1) critical of his denial of animal freedom, in response to which I develop a right to freedom of opportunity instead, and (2) more elaborate on the right to health.

The rights to freedom of opportunity and health are brought to bear on the various interfaces between human and non-human apes, across the spectrum between wilderness and mixed human-animal societies. It does so using One Health as a framework for integrating apparently disconnected practices – e.g. funding for health care of confined great apes,

medical research for conservation, vaccinating great apes in the wild, public health strategies for addressing zoonotic disease risks, habituation and in situ health measures – so as to work towards an interspecies health policy.

Samenvatting

Infectieuze ziekten zoals hoogpathogene aviaire influenza en ebola hemorragische koorts hebben belangstelling aangewakkerd voor de rol van (niet-menselijke) dieren binnen volksgezondheid. Er gaat iets belangrijks verloren wanneer de gezondheid van mensen losgezongen raakt van dieren en ecosystemen. De onderlinge verbondenheid van deze biologische domeinen wordt onderstreept door het concept van One Health, een initiatief waarbij samenwerking tussen verschillende disciplines als essentieel wordt gezien om gezondheid te beschermen en te bevorderen van zowel mensen als dieren, tegen de achtergrond van de ecosystemen waarin zij zijn ingebed.

Een brede en “meersoortige” visie op volksgezondheid laat ruimte voor toe-eigening zonder expliciete verantwoording of reflectie op zowel wetenschappelijk als moreel gebied. Om dit tegen te gaan, ontwikkel ik een visie die de wetenschappelijke essentie van One Health omvat en die door iedere betrokkene kan worden ondersteund. Daarnaast betoog ik dat het cruciaal is om rechtvaardigheid, een nog onderbelicht onderwerp binnen One Health theorie en beleid, nadrukkelijk onderdeel te maken van een meersoortige visie op volksgezondheid. Mensenrechten, met name het recht op gezondheid, vormen een belangrijk startpunt om dit te verwezenlijken. Omgekeerd stelt de visie van One Health vragen bij invulling van mensenrechten en de mate waarin de gezondheid van mensen wordt belicht in onderlinge afhankelijkheid met dieren en ecologische processen. Naast de noodzaak om een meersoortig perspectief te ontwikkelen op volksgezondheid met als doel het waarborgen van de gezondheid van mensen, dient zich de vraag aan in hoeverre de gezondheid van dieren een kwestie van rechtvaardigheid is. In navolging van de Great Ape Project (GAP), worden mensenrechten als startpunt genomen, waarna moreel relevante overeenkomsten met mensapen worden geëvalueerd als mogelijke basis voor erkenning van morele rechten. Het recht op gezondheid zou een toevoeging zijn op de drie negatieve basisrechten verdedigd door de GAP.

De vraag of mensapen een moreel recht op gezondheid hebben werpt tal van andere vragen en overwegingen betreffende o.a. morele status, welzijn, rechtvaardiging en functie van morele rechten, en de reikwijdte en inhoud van de relevante morele verplichtingen die volgen uit morele rechten. In de thesis wordt de theorie van Alasdair Cochrane als uitgangspunt genomen, waarbij belangrijke belangen de basis vormen voor de erkenning van morele

rechten. De thesis wijkt af van Cochrane met betrekking tot de invulling van het recht op vrijheid en het recht op gezondheid.

Het recht op keuzevrijheid en het recht op gezondheid vormen een belangrijk tweetal om tal van mens-mensap interacties, uiteenlopend van wildernis tot gevangenschap, kritisch te evalueren. Juist One Health biedt een raamwerk om deze verschillende, op het eerste gezicht van elkaar afgezonderde contexten – zoals het financieren van medische zorg van mensapen in gevangenschap, medisch onderzoek met als doel conservatie, vaccinatie van mensapen in het wild, volksgezondheidsmaatregelen, habituatie (gewenning) van mensapen en in situ gezondheidszorg – met elkaar te verbinden. De erkenning over soortgrenzen heen van de belangen individuele keuzevrijheid en gezondheid biedt een eerste stap in het realiseren van een écht meersoortig gezondheidsbeleid.

Acknowledgements

Individual accomplishments should not be separated from the social fabric from which they arise. I am indebted to many for contributing to the realization of the present thesis.

Little did I realize beforehand that, as a result of signing up for Raymond Corbey's course on the subject of philosophical anthropology, great apes would for several years not only become our focal point when discussing human and non-human animals, but that it would also culminate in the dissertation presented here. If not for Raymond's astute observations concerning what my future could hold, I would have surely missed out on this remarkable chance to create a bridge between animals and philosophy. His support as well as our friendly, spirited deliberations have surely made this endeavor more than worthwhile.

Franck Meijboom has supported my philosophical wanderings from the very beginning for which I am very grateful. His ability to carefully listen and dissect the complexity of burgeoning ideas has put me on track towards numerous insights. The synergy of our collaboration through the years continues to serve as a catalyst for my philosophical research.

At the Institute for Philosophy of Leiden University, Bruno Verbeek proved an invaluable interlocutor. Whatever proposition is placed before him, he engages with an unperturbed curiosity, candor and a striking sense of humor. Tim Meijers showed me how to be a thinker with gusto. Thomas Fossen meticulously deconstructs philosophical viewpoints with a striking gift to express care for the individual proclaiming them. Frank Chouraqui brightens up any room with his cheerful demeanor, which he will not allow to be overshadowed by his genuine concern for the many troubles of this world. My Dutch inclination to think out loud contrasted with Liu Hao's kind and gracious presence.

It is with great happiness that I reminisce about Glen Newey, while feeling deep sorrow at his death. Irreverence and playfulness bolstered Glen's philosophical ingenuity. Writing these words, I recall how much I looked forward to responding to the no doubt astonishing question he would have asked during the defense of my thesis. His care for others and the ability to spark joy wherever possible made him one of a kind.

I would like to thank Ludo Hellebrekers for hearing me out as a fellow veterinarian, hereby encouraging me to take my philosophical dispositions as seriously as he did.

My visit in April 2017 to the Gorilla Doctors in Rwanda was an amazing experience and was facilitated by the hospitable Mike Cranfield, at that time the Director and Head Veterinarian of this operation. Eddy Kambale Syaluha, Julius Nziza, Jean Bosco Noheli, Fred Nizeyimana, Methode Bahizi, Gaspard Nzayisenga, Jean Claude Tumushime, Jacques Iyanya and Martin Kabuyaya Balyananziu all very kindly provided me with valuable insights into the human-ape interface pertaining to this specific geographical context.

Needless to say, this thesis would not have been possible without the support of the Arcus Foundation to whom I am wholeheartedly indebted to for funding independent research into the issue of human-animal coexistence. In particular, I would like to thank Adam Phillipson and Annette Lanjouw for their assistance from the very start.

I have Peter Richardus to thank dearly for his excellent editing of the thesis manuscript, a great and friendly help in my aspiration to articulate ideas with clarity and style.

It is a great privilege to have my PhD thesis critically reviewed by Prof. Dr. J.C.A. Kolen, Prof. Dr. M.J. Versluys, Dr. B. Bovenkerk, Dr. A. Cochrane, Prof. Dr. M.F. Verweij, Dr. J.J.M. Sleutels and Dr. T. Meijers.

I consider myself fortunate to be able to rely upon my friends and family for providing me with the support required when pursuing this endeavor. My colleague and friend Maite keeps getting me into insightful deliberations filled with laughter. I realize that Evert, my longtime friend who is gifted with a remarkable sense of humor and stoic honesty, knows me as I know him: the assuring feature of a childhood friendship. Lennart has patiently endured the naiveté of my early ventures into the realm of philosophy while sharpening my thoughts with his questions. My regular conversations with Nick greatly supported me in realizing my unconventional aspirations, demonstrating what friendship is about.

Evelyn and Johan, my mother and father, have always provided my brother Matthias and me with a trusting and loving home, supporting our every initiative we wish to pursue, for which I owe them everything.

Perhaps, Matthias is most proud of this thesis, an expression of his wonderful aptitude for sympathetic joy. As a brother, I could not be prouder.

I feel blessed with Lidia's loving support every step of the way. To embark upon the journey of life, together with our wonderful son and daughter, Guus and Janske, fills me with great love and happiness.

Curriculum vitae

Joachim (Johannes) Nieuwland was born on 15 December 1983 in Oldebroek (The Netherlands). In the summer of 2002, he graduated from high school, the Carolus Clusius College in Zwolle, starting his studies in Veterinary Medicine at Utrecht University September the same year. In March 2010, he obtained a MSc from the Faculty of Veterinary Medicine, Utrecht University. While working as a veterinarian in the field of companion animal medicine, a Thomas More Scholarship was granted in 2012 enabling him to pursue a MA Philosophy at the University of Tilburg. There, in January 2014, he graduated cum laude on a master's thesis entitled *The Capabilities Approach and Human-Animal Coexistence*. Having secured funds from the Arcus Foundation, he acquired a PhD research position at the Institute of Philosophy (Leiden University) in October 2014. In addition to, from 2012 on, lecturing on ethics and philosophy within the curriculum at the Faculty of Veterinary Medicine, he is currently employed as a post-doc researcher at the Centre for Sustainable Animal Stewardship (CenSAS), a collaboration between the Faculty of Veterinary Medicine (Utrecht University) and Animal Sciences (Wageningen University & Research). He has, since 2015, chaired the Board of the Queen Sophia Foundation for the Protection of Animals.

