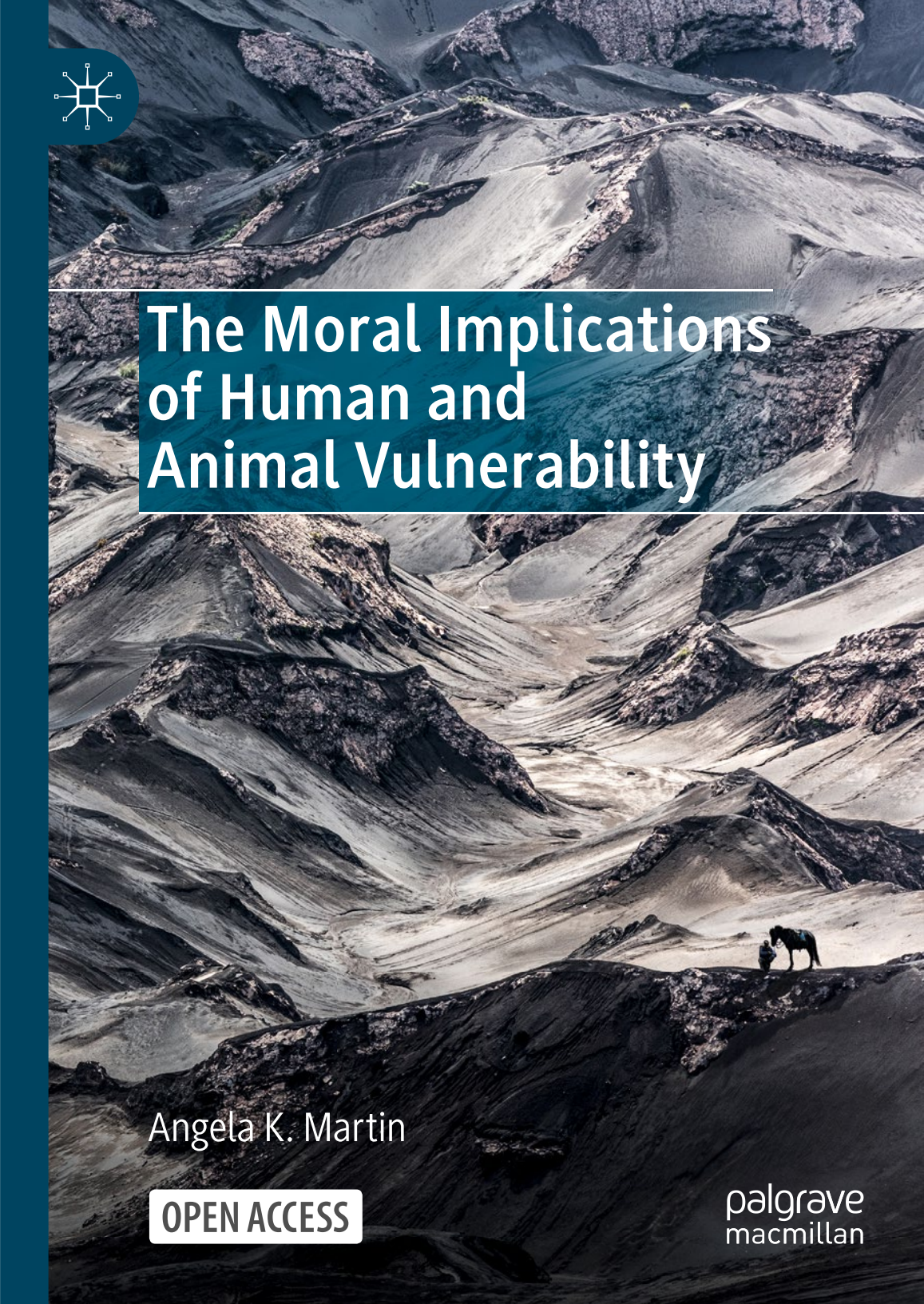
The Moral Implications of Human and Animal Vulnerability
Angela K. Martin
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The Moral Implications of Human and Animal Vulnerability

"*The Moral Implications of Human and Animal Vulnerability* is a novel, carefully written and up-to-date contribution to the animal ethics literature by a well-known philosopher in the field. In it, Angela Martin examines the implications that taking vulnerability seriously has for both animals used by humans and those suffering in the wild, and presents several controversial views for discussion. As this paradigm of vulnerability had not been explored yet in the literature, I believe animal ethicists wanting to be up to date with new developments will benefit a great deal by reading this book."

—Oscar Horta, *University Santiago de Compostela, Spain*

"Serious and sustained scholarly reflection on the vulnerability of nonhuman animals has been sadly absent from mainstream philosophy and bioethics. Angela K Martin's book *The Moral Implications of Human and Animal Vulnerability* makes an important contribution to rectifying this puzzling omission. Early on in the book, Martin sets up the conceptual resources which she is then able to apply to unpack the ever vexed contexts of animals used as food and in research, before turning her attention to the plight of wild animals."

—Jane Johnson, *Macquarie University, Australia*

"Vulnerability has been an important topic in bioethical discourse over the last forty years. Its predominant focus was on *human* vulnerability but recently, *animal* vulnerability has become a topic of philosophical investigation as well. In this book, Angela K. Martin thoroughly addresses what animal vulnerability is, how and why it matters from a moral point of view, and how it compares to human vulnerability. She carefully explores both human and animal vulnerability, bringing out both their similarities and their difference, and she shows how vulnerability discourse can be made fruitful for animal ethics."

—Nathan Nobis, *Morehouse College, USA*

"This book offers one of the most comprehensive and helpful treatments of the concept of 'vulnerability' in applied ethics to date. In so doing, it offers a fresh perspective on our duties to non-human animals that will be of enormous benefit to bioethicists and animal ethicists alike."

—Alasdair Cochrane, *University of Sheffield, UK*

"What is vulnerability? Why is it morally relevant? What, if anything, do we owe to the vulnerable? In *The Moral Implications of Human and Animal Vulnerability*, Angela Martin paints a wonderfully clear picture of why vulnerability is a key-concept in thinking about what we owe to others and how a moral concept used fruitfully for humans can be extended to other animals, including the incredibly ignored wild animals. A mandatory book for anyone interested in thinking rigorously about tough issues in animal ethics and ethics more generally."

—Catia Faria, *Complutense University of Madrid, Spain*

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CHAPTER 1

Introduction

In March 2020, the world stood still for a moment. On March 11th, the World Health Organization (WHO) declared the outbreak of SARS-CoV-2 a global pandemic. The novel coronavirus threatened the health, livelihood, and survival of billions of people worldwide. The elderly and immune-suppressed were particularly susceptible to the virus. To protect their citizens, many governments implemented so-called lockdowns and mandated that everyone who could must stay home.

The virus was not only a risk to people's health. Some groups who were not particularly susceptible to severe COVID-19 still found themselves in challenging situations. For example, healthcare providers in many countries had to work under difficult conditions. Often, they had to work overtime and without proper personal protective material such as medical gloves and masks, as there was a global shortage of such products. Children were deprived of access to schools in many countries, increasing educational inequalities. Some people were at risk of losing their livelihood because they worked in sectors severely affected by the lockdown, such as event organization, culture, and the arts. Most of us would likely say that those groups can be described as *vulnerable* in the context of the pandemic. But what exactly does this term mean?

A. K. Martin, *The Moral Implications of Human and Animal Vulnerability*, https://doi.org/10.1007/978-3-031-25078-1_1

1.1 The Importance of Vulnerability[1]

This book examines the question of what vulnerability is, and assesses why and when it matters from a moral perspective. This is an important endeavor: the concept of vulnerability is invoked frequently, and it plays a particularly important role in the field of bioethics. Some individuals and groups in specific situations or domains, such as medical research and healthcare, are frequently described as vulnerable and should, as a consequence, be afforded additional attention and special protection (Hurst 2008; Solbakk 2010).[2] Yet justifications vary as to *why* these individuals should be regarded as vulnerable. For example, vulnerability is commonly ascribed to those in medical research or healthcare who are more likely to be exploited (Macklin 2003), who are unable to protect or safeguard their own interests (Nickel 2006), who lack basic rights and freedoms to choose the course of their life (Zion et al. 2000), or who are at risk of having unequal opportunities to achieve their greatest possible health and quality of life (Danis and Patrick 2002). As a consequence of their *situational vulnerability* (i.e., their vulnerability in a specific situation or context), it is held, they should be afforded additional attention and special protection, for example, when they enroll in medical research or when they are hospitalized.

However, the view that only some individuals are vulnerable in specific situations or domains has been criticized, on the ground that describing only some people as vulnerable disregards the fact that everyone is vulnerable by their very nature. As Marion Danis and Donald Patrick note, "an approach that seeks to acknowledge multiple views but casts only *some* as vulnerable is insufficient – it ignores the fact that vulnerability is universal and that the failure to acknowledge this universality is divisive. Labeling individuals as 'vulnerable' risks viewing vulnerable individuals as 'others' worthy of pity, a view rarely appreciated. Moreover, the vulnerable are not 'others,' for no one is invulnerable" (Danis and Patrick 2002: 320).

According to the proponents of *ontological* or *universal vulnerability*, to describe only some as vulnerable ignores the fact that humans are all

[1] Introduction partially based on Martin et al. (2014).

[2] For medical research codes governing research with vulnerable persons and populations, see, for example, the National Commission for the Protection of Human Subjects (1979); ICH Steering Committee (1996); World Medical Association (2013).

vulnerable, to some extent.[3] This view is intuitively appealing. After all, we may experience various unpleasant events during the course of our lives: we may seriously hurt ourselves; we may fall temporarily sick or suffer from life-threatening diseases; we may get hurt in natural catastrophes; we may be harmed by other living beings; we may be treated disrespectfully and have our autonomy disregarded; and finally, our lives could end at any moment. All these incidents seem to refer to what we would intuitively call "vulnerability." Indeed, most living beings are vulnerable to harm, such as diseases, attacks, rights violations, and ultimately, death.

Universal vulnerability is characterized as an intrinsic property of all human beings due to our nature (Gert 2004), it forms a part of the human condition (Callahan 2000; Kottow 2003), or expresses the finitude of the human condition (Rendtorff and Kemp 2000). Vulnerability is therefore mostly (but not exclusively) linked to having a body (Kemp 2000; Hoffmaster 2006), to the possibility of encountering harm (Harrosh 2012), or to being mortal (Rendtorff and Kemp 2000; Thomasma 2000; Rendtorff 2002).

These conflicting conceptions of vulnerability show that, despite its frequent use, the concept remains unclear. Who is vulnerable, and why? Thus, one major challenge when defining vulnerability is due to its *unclear scope*: does it encompass everyone by their very nature, or does it concern only a few individuals in particular domains who should be afforded special protection and attention? The difficulty is that the two disparate interpretations of the scope of vulnerability—vulnerability encompassing everyone versus vulnerability as a property of only some—seem contradictory and thus irreconcilable.

This conflict between these two different conceptions of vulnerability, along with the presence of differing definitions in the literature, have far-reaching negative consequences. It may lead us to overlook some individuals who really ought to be recognized as vulnerable and who will otherwise be denied the special protection they may need in specific contexts and situations (such as healthcare). Conversely, it may also lead to the

[3] David Thomasma expresses this view as follows: "What then do we actually mean by saying that there is a special vulnerability of the sick that should drive our healthcare commitments? If, after all, we are all made of friable stuff and will be sick someday, then we are all equally vulnerable from the beginning" (Thomasma 2000: 5).

overprotection and stigmatization of those falsely described as vulnerable.[4] Finally, an unclear concept of vulnerability in the field of bioethics may also elicit opposition to the very idea that some individuals in specific domains are in need of special protection and additional attention. After all, if all human beings are vulnerable by their very nature, then how can we justify additional attention and special protection only for some? Due to the underdetermined scope of the concept, it remains an open question whether vulnerability has some *normative* pull, or whether it is instead a *descriptive* concept. Thus, it is unclear whether vulnerability entails some action-guiding component, or whether it simply describes the human condition, without any normative implications.

The problem concerning the scope of vulnerability and its moral implications becomes even more evident when considering UNESCO's 2005 *Universal Declaration on Bioethics and Human Rights*, which deals with the link between bioethics and human rights. Article 8 states: "In applying and advancing scientific knowledge, medical practice and associated technologies, human vulnerability should be taken into account. Individuals and groups of special vulnerability should be protected and the personal integrity of such individuals respected" (UNESCO 2005). Here, UNESCO refers to a notion of human vulnerability which encompasses everyone by their nature; on the other hand, it invokes a notion of special vulnerability which involves only some individuals. Yet neither of these concepts is further defined. This significant example, as I see it, highlights the need for a definition of universal vulnerability which can simultaneously justify special protective measures only for some. As Jan Helge Solbakk noted, "paradoxically speaking, for the principle of vulnerability not to lose its moral force it needs to be embedded in the human condition of unalterable vulnerability" (Solbakk 2010: 236).

The use of vulnerability in ethics may arouse skepticism. After all, if there are different interpretations of its scope or disagreements as to how it should best be understood, is there not a risk of ethicists talking past each other when employing the term? And would it then not be advisable to abandon the concept of vulnerability altogether (Vladeck 2007)? I hold that eliminating vulnerability language—whether from our common

[4] Vulnerability may have positive or negative connotations, depending on the context. Some may find it desirable to be categorized as vulnerable in a specific context, since this means that they can benefit from special protection. Others, however, may feel inappropriately labeled.

vocabulary or from the field of bioethics in particular—is both unrealistic and undesirable. As has been argued in the literature, the concept of vulnerability, despite its vagueness, is worth holding onto:

> The concept of vulnerability has been used so extensively, and so inconsistently, that it is tempting to conclude that it is incapable of providing any meaningful ethical guidance. As a practical matter, however, it is unlikely that vulnerability language will disappear any time soon. Even if there is no consensus on what vulnerability actually means, calls for "protecting the vulnerable" seem to have an intuitive ethical appeal, and are therefore likely to continue. (Coleman 2009: 14)

Although vulnerability is currently under-theorized and insufficiently defined, there is nonetheless agreement that the concept captures something sufficiently morally important about individuals and groups to call for a moral response. Therefore, bioethics is in need of a robust account of vulnerability (Rogers et al. 2012).

As I argue in this book, the concept of vulnerability—and in particular, situational vulnerability—fulfills an important and useful function: it orients us toward those individuals who, in specific situations, are in need of additional attention and special protection. Vulnerability thus functions as a "needed moral safeguard" (Marco 2004: 82) insofar as it singles out those individuals who are likely to be denied what they are due. And these individuals, as I show in this book, are not only humans, but also sentient animals.

Indeed, it has been argued by some philosophers that animals share one or several properties that are constitutive of vulnerability. However, the application of vulnerability to animals raises important questions regarding ethical implications. For example, would an extension of vulnerability to animals imply that animals should benefit from similar protections as humans, as has been argued (see, e.g., Johnson 2013; Ferdowsian and Choe 2013; Ferdowsian and Fuentes 2014)? Or does animal vulnerability count less than human vulnerability, as proposed by some (Kottow 2004)?

1.2 Structure of the Book

The aim of this book is to propose answers to the questions and problems outlined above. In the following seven chapters, I analyze what vulnerability consists in, indicate to whom it can be ascribed, and identify the

relevant circumstances to be considered. I propose a definition of vulnerability that resolves the conflict between the two diverging understandings of vulnerability in the literature, namely, vulnerability as a property of everyone versus vulnerability as a property of only some individuals or groups in specific situations. In addition, I discuss the link between vulnerability and morality, placing special emphasis throughout the book on the moral implications of *animal vulnerability*. As I will show, vulnerability language not only is useful in the case of humans, but can be fruitfully extended to sentient animals. Specifically, I focus on animal vulnerability in four chapters, because animal vulnerability has thus far been less systematically explored than human vulnerability. I thus outline in the following chapters how vulnerability should be understood in bioethics while proposing how and why it matters from an ethical point of view for both humans *and* animals.

To this end, I adopt a systematic approach: I analyze the concept of vulnerability and then construct an account of how vulnerability *should* best be understood if it is to serve as a fruitful concept in ethics. This means that the account of vulnerability proposed here does not necessarily cover everything which is meant by "vulnerability" in everyday language; rather, it shows how we ought best to understand and employ the term in the field of bioethics. The account of vulnerability presented in this book is thus, to a certain extent, *ameliorative*. I argue that the problem concerning the scope of vulnerability can be resolved, demonstrating that both extant conceptions—that is, universal and situational vulnerability—refer to the very same concept, with different likelihoods of manifestation. The definition of situational vulnerability is thus based on the definition of universal vulnerability.

The structure is as follows. In Chap. 2, I distinguish among various conceptions of vulnerability found in the literature, I outline the entities to which vulnerability can be ascribed, and I list the usages to be adopted going forward. I show that vulnerability is a dispositional concept, and so we must distinguish among the *reasons* why an entity is vulnerable, the *conditions* of manifestation, and the actual *manifestations* of vulnerability. Furthermore, I discuss the type of definition most suitable for capturing what vulnerability means in bioethics, and I list the conditions it should fulfill.

In Chap. 3, I present my definition of universal vulnerability. I argue that generally vulnerable beings possess certain fundamental interests, namely welfare and agency interests, which could potentially be

frustrated—be it by the individuals themselves, by unlucky circumstances, or by moral agents or moral patients (Martin et al. 2014: 55). Correspondingly, I distinguish among different types of manifestations of vulnerability—that is, states which occur if these interests are frustrated, notably unpreventable or morally justified harm, wrongful harm, and mere wrongs which do not involve any harm (the latter defined as cases where someone's welfare or agency interests are unjustifiably disregarded by a moral agent, but where the consequent state does not involve any measurable or subjectively perceivable harm).

If moral agents have power over the satisfaction of the welfare and agency interests of others, then they also have a duty to consider them in a fair way, I suggest. Accordingly, we are no longer talking about mere *interests*; rather, these fundamental welfare and agency interests have the status of *legitimate claims*—with corresponding duties. Those with power over the claims of others are not necessarily nominated moral agents who stand in a relationship to the vulnerable beings. Sometimes, we hold a certain power over the satisfaction of claims of individuals far away from us, along with a corresponding duty to consider them fairly.

How is this definition of universal vulnerability linked to situational vulnerability? I argue that those who are comparatively more likely to have their legitimate claims unjustly considered should be regarded as *particularly vulnerable* in a specific situation or context. The increased likelihood of having one's claims unfairly considered may be due to prejudices, discriminatory attitudes, ignorance, neglect, and the like. As a consequence, these individuals are more likely to incur unjustified harm or mere wrongs not involving harm. *Qua* particularly vulnerable, they should be afforded additional attention and special protection to decrease their risk of incurring unjustified harm and to ensure that they receive what they are due.

The account of vulnerability presented here has several advantages. It allows for a distinction between universal and situational vulnerability, the latter being embedded in the former. It explains why some vulnerabilities matter morally and require action, while others are unavoidable or unalterable parts of life. Furthermore, the lens of vulnerability can be directed toward animals, thus providing insights into the field of animal ethics. After all, it seems a worthwhile endeavor to systematically investigate how a moral concept fruitfully used for humans can be extended to animals.

Chapter 4 is dedicated to the topic of whether animals can fulfill the conditions of my definition of universal vulnerability. I answer this question affirmatively, and I inquire whether animals can hold legitimate

claims. I show that sentient animals—the focus of Chaps. 4, 5, 6, and 7—have welfare interests and sometimes agency interests. I argue, consequently, that moral agents owe direct duties to animals, and that speciesism (i.e., discrimination based on species-membership), ought to be rejected. This implies that like interests should count alike, regardless of their bearer's species. This leads me to draw up a list of basic *pro tanto* claims of animals that should be justly considered by moral agents who have power over the satisfaction of these claims.

Thus, I establish in Chap. 4 that animals are generally vulnerable. However, the more important question, from an ethical perspective, is whether animals—like some groups of humans—can be *situationally particularly vulnerable* and should therefore be afforded additional attention and special protection. I demonstrate that some groups of animals are indeed comparatively more likely to have their claims unjustly considered, as speciesist attitudes and prejudices often prevail in the treatment and consideration of some non-human animals. To illustrate this point, I focus on three groups of animals in Chaps. 5, 6, and 7: animals used for food, animals used in research, and wild animals. This selection is no accident; rather, the focus on these specific groups of animals serves to illustrate different manifestations of vulnerability—namely, *unjustified harm*, *justified harm*, and *unpreventable harm*.

The first group of animals I discuss are animals used as food sources. The rearing and killing of animals for the food industry often involves tremendous harm. Chapter 5 discusses whether using animals for human consumption can be ethically justified. I argue that many—but not all—uses of animals as food sources are morally problematic, as animal agriculture is often a deeply speciesist practice. This does not imply that we must all necessarily become strict vegans, however; there are some non-harmful uses of animals which can be ethically justified. Nonetheless, I conclude that we should recognize many groups of animals commonly used for food as particularly vulnerable. Indeed, their claims do not receive the consideration they are due, and I make a case for increasing their protection accordingly.

In Chap. 6, I turn to the question of whether the harm that animals used in research suffer throughout scientific studies can be ethically justified, or whether we should regard these animals as particularly vulnerable research subjects who should be afforded additional attention and special protection. After all, using animals for research, which improves both human and animal health and welfare, seems *prima facie* more ethically

justifiable than killing animals for food. However, I contend that not all animal research discounts animals' claims in a legitimate manner; on the contrary, much of the research currently conducted with animals is ethically unjustified. The currently implemented research requirements, I explain, are often speciesist and thus insufficient from a moral point of view. Therefore, we should designate many groups of research animals as particularly vulnerable. For research with these animals to become more ethical, it must become more similar to research with humans, and I outline what this could look like in practice.

Chapter 7 discusses whether the various forms of harm experienced by wild animals in their daily lives—typically viewed as inevitable and unpreventable forms of suffering—are justified from an ethical point of view. I argue that not all the harms endured by wild animals are ethically justified, even if they are caused by natural forces or by other animals rather than by moral agents. I propose that, in some cases, moral agents have a duty to intervene in nature and to help reduce the harm experienced by wild animals, even if humans are not the source of this harm. I further defend a duty of compensation if direct or indirect harm is caused to wild animals as a result of human activity.

In Chap. 8, I summarize the main ideas and arguments of the book. I explain what extending vulnerability language to animals adds to moral debates in animal ethics, and I adumbrate further applications of vulnerability discourse to other fields. Finally, I defend the book's main arguments and views against potential objections.

One of the main ideas presented in this book is that different groups of both humans *and* animals can be particularly vulnerable in various settings. Commensurate to their increased vulnerability, they should be afforded additional attention and protection to ensure that they receive what they are due. That is, the definition of situational vulnerability I propose here is formal enough to be applied to various scenarios, situations, groups, and even *species*. It can be applied to various situations and events such as humanitarian crises, natural disasters, medical research, healthcare, as well as certain uses of animals. I will illustrate this point in the next chapter with three real-world case studies.

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CHAPTER 2

Why Vulnerability Matters

Over the last four decades, vulnerability discourse has become ubiquitous—not only in everyday language, but also in fields as diverse as philosophy, medicine, humanitarian aid, environmental studies, and economics. We commonly say that humans are, by our very own nature, *vulnerable* beings, that infants are *vulnerable* research subjects, that orangutans are *vulnerable* to extinction, that certain ecosystems are *vulnerable* to destruction, that certain economic systems are *vulnerable* to financial crises, and so on. But what is vulnerability, and why does it matter from a moral point of view?

This chapter opens with three cases of vulnerabilities among humans and animals. These cases serve as an illustration to show that while we all probably have some intuitive understanding of what vulnerability amounts to, it is not easy to identify the common feature in virtue of which the individuals in these scenarios are deemed vulnerable. In the second section, I distinguish between different uses of vulnerability ascriptions. I explain that vulnerability is a dispositional concept. From this follows that we should distinguish the *reasons* why an entity is vulnerable from its

Portions of this chapter and the following one draw on the following publications: Martin et al. (2014); Martin (2021).

A. K. Martin, *The Moral Implications of Human and Animal Vulnerability*, https://doi.org/10.1007/978-3-031-25078-1_2

conditions of manifestation and from its different *forms* of manifestation. Furthermore, I introduce the two most important conceptions of vulnerability in the literature: vulnerability as a universal property of all human and non-human animals (called *universal or ontological* vulnerability), and vulnerability as a property of only some groups or individuals in some contexts (*situational* or *circumstantial* vulnerability). Lastly, I outline the conditions that a satisfactory account of vulnerability should fulfill, before proceeding to my own definition of vulnerability in Chap. 3.

2.1 Illustrations of Vulnerability

In 1932, the U.S. Public Health Service gave the green light to a study that became one of the biggest scandals in biomedical research. At that time, those suffering from syphilis could not yet count on any effective treatment. The usual cures—such as mercury—were often more harmful than beneficial, leading researchers to wonder whether leaving syphilis untreated might be more helpful to patients than taking any medication at all. This was the starting point of the now-infamous "Tuskegee Study of Untreated Syphilis in the Negro Male." In this context, researchers investigated the natural development of untreated syphilis, in the hopes of better understanding the disease. In total 399 black sharecroppers suffering from syphilis, from Macon County, Alabama (a rural, predominantly black, and rather poor area) were enrolled in the study, while 201 men with a similar societal background but without syphilis were selected as a control group. The participants were promised treatment for what researchers called "bad blood," and were provided with free meals, medical care, and stipends for their burials once they died. These conditions seemed attractive to many of the participants.

In 1947, penicillin became widely available as the recommended treatment for syphilis. However, the researchers running the Tuskegee study refrained from administering these life-saving antibiotics to their study subjects; instead, they stuck with their original plan to investigate the full natural course of untreated syphilis as a medical condition—with disastrous effects for the study participants.

In 1965, a young social worker and epidemiologist called Peter Buxtun, who was working for the U.S. Public Health Service, learned about the study, which was still ongoing. Outraged by what he heard, he twice filed a complaint—to no avail. In 1972, he decided to leak information about the study to Jean Heller, an investigative journalist. Heller published

articles on this story in July 1972 in the *Washington Star* and the *New York Times*. Her articles caused a public outcry, leading Federal Agencies to appoint an ad hoc advisory panel (with nine members from different scientific backgrounds) to review the study's design. This panel's investigation showed that the men participated freely in the study, but that they were not aware of their medical condition, the exact nature of the study, nor its aim. Furthermore, penicillin was withheld from them, and they were not informed that this effective treatment existed. The board concluded that the study was ethically unjustified, and recommended stopping it. By the end of the study, numerous men had died and an untold number of wives, children, and other people close to the infected men had inadvertently been infected with syphilis. A class-action lawsuit was filed, and a settlement was reached for ten million dollars. Furthermore, the survivors of the study, along with some of their family members, received free medical care for the rest of their lives.

Evidently, reparation alone was insufficient: actions were needed to avoid such exploitative practices in the future. Shortly thereafter, the *Belmont Report*—a code with principles and rules governing medical research on humans—was established, and was partly influenced by the misconduct of the Tuskegee syphilis study. While its main ethical principles are respect for persons, beneficence, and justice, the report also contains a significant section on *vulnerable* research subjects:

> One special instance of injustice results from the involvement of vulnerable subjects. Certain groups, such as racial minorities, the economically disadvantaged, the very sick, and the institutionalized may continually be sought as research subjects, owing to their ready availability in settings where research is conducted. Given their dependent status and their frequently compromised capacity for free consent, they should be protected against the danger of being involved in research solely for administrative convenience, or because they are easy to manipulate as a result of their illness or socioeconomic condition. (The National Commission for the Protection of Human Subjects 1979)

This was one of the ways in which the terms "vulnerable subjects," "vulnerable groups," and "vulnerable populations" found their way into guidelines for research with human subjects.

In the 1990s, another scandal broke—this time involving not humans, but animals. Cows are herbivorous animals that normally feed on grass; in

industrialized farming, however, cheap commercial feeds are frequently used as an alternative. For years, British farmers fed cattle (destined for meat and milk production) a protein supplement called "meat-and-bone meal." This meal contained the remains of other animals, such as cattle or sheep. Unfortunately, it did not always come from healthy animals. Due to this feeding practice, many cattle were infected with bovine spongiform encephalopathy (BSE), also called "mad cow disease." BSE is a neurodegenerative disease that results in abnormal behavior like aggression, severe moving issues, weight loss, and eventually death.

Scientists first assumed that this disease could not be transmitted to humans and other animals. However, they rapidly had to change their view: cats, mice, and zoo animals fed with contaminated meat also fell ill. And soon, it was discovered that this disease also affects humans who eat contaminated meat: they develop variant Creutzfeldt-Jakob disease, which is fatal.

The epidemic reached a peak among cattle in 1992 and 1993. Other European countries besides the United Kingdom, such as Germany and France, were also affected. Over 100,000 cases of cows suffering from BSE were confirmed. In an attempt to stop the disease, 4.4 million cattle were slaughtered and their carcasses thrown away.

What is wrong with this? The cattle and other affected animals were sentient beings. While they could not formulate it in words, they had an interest in the avoidance of unnecessary suffering, an interest in pursuing species-typical behavior, an interest in being fed species-typical food, and an interest in continued existence, that is, to be able to continue living pleasant moments. Cattle commonly exist for the sake of humans, insofar as it is humans who bring them into existence for their meat, their hides, and their milk. While farmers were responsible for these animals, they nonetheless made them vulnerable by relying on a cheap feeding supplement that was inadequate for herbivores. Inadvertently, they directly harmed the cattle under their care by their actions, ultimately also putting many human lives at risk.

The Tuskegee study and the emergence of BSE are two cases that involve intuitively clear cases of vulnerability. And there are many others. Another, more recent, example involving vulnerabilities is the separation of over 2000 children from their parents at the United States' southern border in 2018. Consequent to U.S. President Donald J. Trump's "zero tolerance" migration policy, illegal immigrants from Central and South America were stopped at the U.S. border, where parents were frequently

separated from their children. The parents were prosecuted for illegal entry into the United States. But since their children could not be charged with a crime and thus not be detained in jail, these minors were brought into detention camps, which, as the media and lawyers frequently reported, offered deplorable conditions: cold and over-crowded rooms, insufficient or unwholesome food, and not enough sanitary facilities. Due to the ensuing public outcry, on June 20, 2018, President Donald Trump signed an executive order restricting family separation. Nonetheless, subsequently reuniting the families often proved difficult in practice, as the situation was chaotic and officials were missing a central database with the details of all the family members and their locations. Today, it remains an open question whether all these children have been reunited with their family, not to mention how they will cope with their traumatic experiences in the future.

Taken together, these cases illustrate that many different groups can be deemed vulnerable, and that vulnerability is context-sensitive—that is, the groups that can be identified as vulnerable vary depending on the context. The examples also show that we all probably have some intuitive understanding of what vulnerability involves. In practice, however, it seems hard to pinpoint what actually renders the humans and animals in the examples above vulnerable. Is it the fact that they were exploited or instrumentalized? Is it the fact that they were not duly respected? Is it that they were in a situation of dependency? Or is it that their lives or livelihoods were at risk? Again, the answer seems to depend on the scenario.

In addition, one may object to the view that only some groups or individuals are considered vulnerable in certain contexts. Are we not all vulnerable beings, by our very nature? Indeed, we are all mortal, embodied beings who may be harmed and wronged. And if we are all vulnerable by nature, is it not problematic to refer only to certain groups and populations as vulnerable, as is currently done in many fields, such as medical research, healthcare, and humanitarian aid?

Furthermore—one could add—if so many different groups are deemed vulnerable, does not the concept of vulnerability become meaningless? Do vulnerability ascriptions add anything useful to moral and political discourse? What purpose does it serve to describe some groups of humans and animals as vulnerable, if we are all vulnerable by our very nature? And can animals really be described as vulnerable, after all?

The following sections address these questions: I will analyze the concept of vulnerability along with its different possible uses, and introduce the notions of universal and situational vulnerability.

2.2 Vulnerability: The Conceptual Landscape

Vulnerability ascriptions are common in everyday language. Consider the following examples:

(1) Infants are vulnerable research subjects.
(2) Sahid is vulnerable to poverty.
(3) Aadhya's computer is vulnerable to viruses.
(4) The ecosystem is vulnerable to irreversible damage.
(5) Blue whales are vulnerable to extinction.
(6) Iran is vulnerable to political sanctions.

As I will demonstrate below, these examples will help to identify the structure of vulnerability ascriptions:

(i) vulnerability ascriptions commonly have the form "X is vulnerable to Y";
(ii) vulnerability is a dispositional property;
(iii) the manifestations of vulnerability are often perceived negatively;
(iv) the manifestations of vulnerability are externally caused; and
(v) vulnerability is not an essential property of humans and animals, contrary to what one may intuitively think.

The examples (1)–(6) above reveal the common structure of vulnerability ascriptions: vulnerability can be ascribed both to living entities (such as humans, animals, and the ecosystem) and to non-living entities (the computer and Iran). Furthermore, most entities X are vulnerable *to a particular Y*. This means that if we want to meaningfully ascribe vulnerability to some entity X, we have to specify the Y to which X is *vulnerable*: we must say that an ecosystem is vulnerable *to destruction*, an economic system is vulnerable *to financial crisis*, or a state is vulnerable *to attack*.

Vulnerability ascriptions refer to some possible state of being, rather than an actual one. If we say that blue whales are vulnerable to extinction, we are claiming not that blue whales are extinct, but that they may likely become extinct. If a newscaster informs us that some countries are vulnerable to political sanctions, she is not saying that sanctions are already in place, but that they may likely be instated. That is, as the above examples show, vulnerability ascriptions express that some Y *may* happen to X. Vulnerability thus refers to some *potential state* that has a certain

likelihood, under certain circumstances, of manifesting itself. This means that vulnerability is a modal property—more precisely, a *dispositional* property.

What are dispositional properties? There is no agreement to date on a generally accepted definition of dispositions in philosophy. Broadly speaking, a dispositional property is the property of an object that is liable to manifest a certain state if certain conditions obtain. Thus, dispositions refer to some possible state of affairs for a certain object. Insofar as they express the potentiality or possibility, under some circumstances, that an object will manifest a certain state, dispositional properties entail a probabilistic component. Accordingly, it can be said that dispositions depend on subjunctive conditionals and entail the possible behavior or manifestation of a certain object. By way of illustration, the opposite of dispositional properties are categorical properties, such as shape, (molecular) structure, massiveness, or triangularity: a stone is massive (or not), and a triangle is triangular (or else it is not a triangle). They do not have any special relation to modality and conditionals, contrary to dispositional properties. Further examples of dispositional properties are solubility and fragility. They manifest if certain conditions are fulfilled: a fragile glass shatters *if* it falls from a table. Sugar dissolves *if* it is put in liquid. Therefore, we can say that dispositions have a characteristic form or state of *manifestation*. There can be one manifestation for a certain object (such as the breaking of a fragile vase), or several, in which case one speaks of *multiple realizability*. Vulnerability seems to be multiply realizable: it does not have only one possible and specific form of manifestation; rather, several are conceivable.

In general, three different points can thus be distinguished for dispositions: (i) the *reason* why some X is disposed to Y (e.g., a fragile glass is disposed to break because of its atomic structure); (ii) the *conditions* under which Y manifests (e.g., a glass breaks *if* it is dropped); and (iii) the *manifestation* itself (e.g., the shattering and breaking of the glass).

Significantly, the same analysis applies to vulnerability, a convincing account of which should be able to distinguish and explain the following three points:

(i) the *reasons* why an object is vulnerable;
(ii) the *conditions* under which vulnerability is manifested; and
(iii) the *manifestations* of vulnerability.

The reasons *explain* why an object is vulnerable; the conditions represent the *causes* of manifestation; and the manifestation can be regarded as the *resulting state*. A convincing account of vulnerability thus needs to explain the reasons for vulnerability, its conditions of manifestation, and what its different forms of manifestation are. I will spell out these points in the next chapters.

Moreover, the *manifestation* of vulnerability is often seen as something negative, which should be avoided. The examples (1)–(6) above state that some entities, such as countries, the ecosystem, animals, and humans are at risk of manifesting some *undesirable* state Y, and imply that we care about this risk. Indeed, we usually regard Y as negative and would prefer that Y did not occur. For example, by saying that "an ecosystem is vulnerable to destruction," we mean that the ecosystem is at risk of being destroyed—a resulting state that we regard as adverse and undesirable, as we prefer that the ecosystem remains in its original state, or at least that it does not change in this way. Vulnerability ascriptions in the case of *non-sentient* entities signify that the entity in question is valued in its current state, yet is disposed to be adversely affected.

In the case of the vulnerability of *sentient* beings, preventing the manifestation of vulnerability is in the interest of the beings themselves, while in the case of *non-living* entities, their disposition to manifest a certain state has no value for the entity in question, as they do not have any experiential well-being of their own. Thus, it is in the interest of sentient vulnerable beings to avoid the manifestation of vulnerability for their own sake—contrary to vulnerable objects such as ecosystems or countries. Conversely, *invulnerability* means that the entity in question cannot be adversely affected. In what follows, I will concentrate on the vulnerability of humans and animals, as living, sentient beings.

The manifestations of vulnerability are externally caused or brought about. Vulnerability is thus an extrinsic property, rather than an intrinsic one (McKitrick 2003; Armstrong 2017). If we analyze the vulnerability ascriptions above, we notice that vulnerability does not necessarily inhere within things or individuals. Rather, entities are *caused* to manifest a certain state by external circumstances or actions. For example, it is not something in the nature of blue whales that makes them prone to going extinct. Rather, it is *human* behavior—by whaling, polluting oceans, and overfishing—that renders whales vulnerable to extinction. Likewise, it is surely not the case that some individuals possess some intrinsic properties that make them more likely to endure poverty, while others lack these properties

altogether. There is nothing intrinsic to some persons which makes them more prone to suffer from poverty than others. Rather, poverty has to do with external circumstances, such as being born into a place with limited access to resources—be it because these resources are depleted by others, or because there are just not enough resources available for the individuals living there.[1] Finally, if my computer is vulnerable to viruses, this does not necessarily have anything to do with my computer; rather, it has to do with my computer's interactions with the world. Only by surfing the World Wide Web and clicking on suspicious websites, opening links from unknown sources, downloading problematic content and not renewing anti-virus programs, do I put my computer at risk and thereby render it vulnerable to catching viruses. Vulnerability is therefore an extrinsic property of objects, not an intrinsic one.

Consequently, the conditions of manifestations of vulnerability are relational: a manifestation of vulnerability usually occurs due to some interaction between the vulnerable individual and the world. Causes of the manifestation of vulnerability may thus be the individuals themselves when they interact with the world, the circumstances, or other living beings. One may object on the grounds that if individuals manifest vulnerability themselves, for instance by harming themselves when taking part in risky sports, the reason for manifestation is intrinsic. But this interpretation is shortsighted, as it overlooks the fact that some interaction with the world was still involved, even if the individual was the main source or cause.

Are all humans and animals vulnerable by their very nature? That is, are they *essentially* vulnerable, or could they lack vulnerability as a property? Essential properties of an object are properties that this object must necessarily have, and therefore could not lack without ceasing to exist. Accordingly, if vulnerability were an essential property of humans and animals, they would not conceivable without it. In order to determine whether this is the case, a thought experiment can help: can we imagine non-vulnerable humans and animals and would we still consider them to be humans or animals, respectively? This seems to be the case. Consider, for example, embryos in a very early developmental stage, say a few days after conception in the blastocyst stadium: they may be destroyed, but

[1] This view may be challenged by epigenetics and the fact that there is intergenerational transmission of health and disease, which influences susceptibility to poverty. I thank an anonymous reviewer for raising this point. While these factors certainly can have an impact on health, well-being, and wealth, they are in most cases externally created in earlier generations.

since they do not have—until a later stage of their development—any actual interests, they cannot count as actually vulnerable, but only potentially so. Yet they are human (or animal) nonetheless. The same applies to dead humans and animals, or those in an irreversible vegetative state: they are non-vulnerable to the extent that they can no longer be adversely affected, yet they remain human beings and animals. Therefore, vulnerability is an *essential* feature neither of humans, nor of other animals.

2.3 Universal and Situational Vulnerability

Two different understandings of vulnerability dominate the literature: *universal or ontological vulnerability* on the one hand, and *situational or circumstantial vulnerability* on the other. Those who construe vulnerability as universal start from the assumption that vulnerability is a shared property of all humans and sometimes animals as well—that is, that we are all vulnerable by our very nature. Those who understand vulnerability as situational assume that some individuals are rendered vulnerable in certain situations or contexts—that is, they become a vulnerable population that should be afforded special protection and additional attention. Furthermore, some accounts combine these two understandings of vulnerability in their writings. I will discuss these two conceptions of vulnerability in turn, beginning with situational vulnerability.

Vulnerability often seems to be situational: we frequently talk about vulnerable refugee groups, vulnerable minority groups, vulnerable medical patients, vulnerable research subjects, and so on in specific contexts. When we refer to vulnerable groups, we imply that they should be afforded special protection, attention, or assistance. For example, if we say that children are a vulnerable refugee group, we are implying that we need to pay special attention to their needs in asylum accommodation and refugee camps, as these may often be overlooked.

We often assume that it is intuitively clear who the vulnerable individuals or groups are. As a consequence, for a long time, many authors and guidelines (e.g., in medical research) did not concern themselves with defining vulnerability. Typically, they listed socially salient groups, including the homeless, the poor, children, racial minorities, prisoners, refugees, the marginalized, the elderly, and the like (see, e.g., the National Commission for the Protection of Human Subjects 1979; ICH Steering Committee 1996).

There are several problems with list-based approaches toward vulnerability, however. First, such lists lack an organizing criterion or characteristic that is shared by all the individuals mentioned, and it is not clear why precisely these people should be considered vulnerable. Second, these lists are often vast, such that nearly everyone appears to be vulnerable, which may result in criticism of the use and application of the term "vulnerability". Third, describing so many different populations as vulnerable may lead to the stigmatization of some of these groups: if women, racial minorities, or the elderly are considered vulnerable, this characterization may foster discriminatory attitudes toward these groups along with opposition to the claim that they deserve special protection. Fourth, listing vulnerable populations misses the fact that among the group members, there are always certain individuals who are not particularly vulnerable. A failure to recognize this discrepancy can result in overly protective measures, which may be inappropriate for some individuals. Thus, overly comprehensive lists of vulnerable populations that fail to include exact criteria for vulnerability ascriptions may not only be misleading and stigmatizing, but also counterproductive, since they may result in opposition to the idea of special protection for those who actually need it. Conversely, the lists may not be comprehensive, and failing to recognize some vulnerable populations can potentially lead to negative consequences.

Some organizations have recognized these problems and changed their strategy. For example, the Council for International Organizations of Medical Sciences (CIOMS) defined vulnerability in its 2002 guidelines as follows: "Vulnerable persons are those who are relatively (or absolutely) incapable of protecting their own interests. More formally, they may have insufficient power, intelligence, education, resources, strength, or other needed attributes to protect their own interests" (Council for International Organizations of Medical Sciences 2002: Guideline 13). In the subsequent paragraphs, the Council mentions various groups as vulnerable, including—to list just some—medical and nursing students, subordinate hospital and laboratory personnel, employees of pharmaceutical companies, members of the armed forces or police, residents of nursing homes, people receiving welfare benefits or social assistance, the unemployed, patients in emergency rooms, patients with incurable disease, individuals who are politically powerless, members of communities unfamiliar with modern medical concepts, and persons who have serious diseases (potentially disabling or life-threatening). In 2016, the CIOMS revised its guidelines; tellingly, it no longer presents a long list of vulnerable individuals. It

states that "a traditional approach to vulnerability in research has been to label entire classes of individuals as vulnerable. The account of vulnerability in this Guideline seeks to avoid considering members of entire classes of individuals as vulnerable" (Council for International Organizations of Medical Sciences 2016: 57). Instead, the Council now lists alleged properties of the vulnerable, such as diminished capacity to give informed consent, being in a hierarchical setting that may pressure people to partake in research, and being institutionalized.

Justifying what exactly makes these groups vulnerable is no simple task, though. Other accounts ascribe vulnerability to groups of individuals who are more likely to be exploited (Macklin 2003), who are unable to protect or safeguard their own interests (Nickel 2006), who lack basic rights (Zion et al. 2000), who are susceptible to additional harm (Kottow 2003), or who are at risk of having unequal opportunities to achieve maximum possible health and quality of life (Danis and Patrick 2002). It is suggested that, due to their status as vulnerable individuals, they should be afforded special protection and additional attention—for example, when they enroll in medical research or when they happen to be hospitalized.

All these definitions present difficulties. For instance, some persons are able to give free and informed consent, or may have access to the health care system, but can be considered vulnerable nonetheless. One example is a hospitalized yet conscious person suffering from a rare and severe disease. Since research in the field of rare diseases is not lucrative, there may be no adequate medication or treatment available, making it likely that the person will receive either no medication at all or an unsuitable treatment. And so we may want to consider this person particularly vulnerable within the healthcare sector (but not necessarily in other contexts). Another example could be women in countries with repressive gender attitudes. If women are considered inferior to men, their needs are likely to be ignored in many domains—regardless of their ability to give informed consent. Therefore, while the lack of some ability (such as decisional capacity) can certainly render a person vulnerable, it is insufficient as a characteristic of vulnerability on its own.

Could exploitation provide the criterion? That is, are the vulnerable those who are more likely to be exploited? The Tuskegee study described above would seem to confirm this suggestion. However, the notion of exploitation is notoriously vague. It is not obvious what it fully includes,

since this depends on the definition and interpretation of the concept. If exploitation is defined as taking unfair advantage of someone and benefitting from it, there may be situations in which a person is not exploited yet still vulnerable. This will be the case for those who are more likely to be victims of indiscretions and breaches of secrecy in healthcare, or those suffering from rare or terminal diseases, who are more likely to take inappropriately high risks in medical research in the hopes of being cured. A definition of vulnerability that is based on exploitation as its main criterion therefore fails, not only because the concept of exploitation is unclear, but also because it is not a sufficient criterion for defining vulnerability.

This lack of a clear criterion for ascribing vulnerability hinders the identification of vulnerable individuals in different domains, preventing these individuals' being afforded the protective measures they are due. It may also lead to the neglect of some individuals who are not regarded as vulnerable—although they ought to be. Other negative consequences may involve unwarranted paternalism, undue overprotection of some individuals, and stigmatizing attitudes toward the vulnerable.

But there is a further, more important, challenge. The view that only some individuals and groups in some domains are vulnerable is sometimes criticized on the basis that describing only some as vulnerable disregards the fact that everyone is vulnerable by their very nature. Some philosophers and bioethicists argue that vulnerability is *universal*. On their view, it would be divisive to deny that vulnerability is a shared human property, as failing to recognize this basic fact may lead to stigmatization. We should not think of vulnerability as something that only concerns *other* groups and populations (i.e., not us), as we are all vulnerable (Danis and Patrick 2002). Thus, recognizing only some people's vulnerability ignores the reality that we are all, to some extent, vulnerable by our very nature.

This view, which defends what can be called a universal understanding of vulnerability, is intuitively appealing: all humans may experience various unpleasant events over their lifetime. Among other things, we may seriously hurt ourselves, fall sick temporarily or suffer from life-threatening diseases, become injured in natural catastrophes, be attacked by other humans or animals, become dependent on others at various points of our lives, be treated disrespectfully or have our autonomy disregarded, and finally, face the risk of dying at any moment of our lives. All these incidents seem to instantiate what we would intuitively call "vulnerability." Living beings are vulnerable to various forms of harm, such as diseases, accidents, attacks, hunger, fire, and, ultimately, death. Universal vulnerability is

mostly seen as a property of all humans due to our very nature, as forming part of the human condition, or as a consequence of our finitude. Vulnerability is therefore mostly (but not exclusively) linked to dependency, to having a body, to the possibility of encountering harm, and to being mortal (Callahan 2000; Kemp 2000; Rendtorff and Kemp 2000; Thomasma 2000; Rendtorff 2002; Kottow 2003; Gert 2004; Hoffmaster 2006; Harrosh 2012).

What are the consequences of universal vulnerability? Its implications vary in the literature. Some philosophers regard universal vulnerability as purely descriptive, considering any qualification of it as normatively relevant, a naturalistic fallacy. That is, they claim that vulnerability is an essential part of being human which cannot have any ethical dimension (Kottow 2004: 284). Other authors derive *individual* obligations from a universally shared vulnerability: we have obligations toward others *because* they are vulnerable beings. The vulnerability of other individuals is then, according to this view, one reason for us to have moral obligations toward them (Goodin 1985: 42). Still others derive *institutional* duties from vulnerability: care ethicists, for example, often claim that vulnerability should be taken into consideration not only by moral theories, but also by political and social systems. Institutions, they argue, ought to acknowledge and account for the general vulnerability and dependency of human beings by recognizing them symbolically and materially (Dodds 2007; Engster 2019). Other theorists claim that universal vulnerability is the foundation of equality, even of human rights. Given that we are all equally vulnerable—according an argument by Martha Fineman (2008)—political theories should be responsive to our shared vulnerability. That is, societal institutions should be created in ways that take vulnerability into account, and they should ensure that no group is disadvantaged or given undue benefits: societal assets should be distributed equally. Another author, Bryan Turner (2006), regards vulnerability as the foundation of human rights: vulnerability, he claims, is closely associated with fundamental rights, such as the right to life. According to his account, vulnerability is the foundation for respecting others. In order to reduce humans' various vulnerabilities and dependencies, we create political institutions that ensure collective security; at the same time, these institutions may be imperfect and increase our vulnerability. Thus, human rights are rights that we need as protection from our vulnerable and dependent nature.

There is a tension between the situational and universal conceptions of vulnerability. Indeed, these two disparate interpretations seem

contradictory and thus irreconcilable: the idea that vulnerability encompasses everyone conflicts with the view that it is a property restricted only to some. Due to this conflict, it remains undecided whether vulnerability has some normative pull, or whether it is instead a descriptive concept. Thus, it is an open question whether vulnerability entails some action-guiding component and requires that something be done about it, or whether it merely describes the human condition without any normative implications. Moreover, not resolving this conflict may result in opposition to the idea that the vulnerable should be afforded special protection: if all human beings are vulnerable by their very nature, how can special protection only for some be justified?

What is needed, then, is an account of vulnerability which encompasses universal vulnerability, but which can, at the same time, account for the increased situational vulnerability of some individuals or groups in some contexts, who should consequently receive special attention. Some authors have identified this problem and proposed comprehensive definitions of vulnerability. In her article "Elucidating the Concept of Vulnerability: Layers, Not Labels," Florencia Luna (2009) argues in favor of the view that vulnerability is a relational concept, determined by the relationship of the person in question to a certain context or set of circumstances. She argues against regarding vulnerability as a label or category that can be applied to certain persons, and so she rejects lists of vulnerable (sub-) populations. Instead, she proposes a layered approach: individuals can have one or several (sometimes overlapping) layers of vulnerability, which arise in certain situations or contexts. That is, vulnerability is not a permanent condition or label that one has. Rather, one can have more or fewer layers of vulnerability. Such an approach has the advantage of flexibility, and it can account for the idea that everyone is vulnerable, to some extent. At the same time, it allows for the identification of some individuals as particularly vulnerable and in need of special protection and attention. However, this account does not clearly specify the circumstances under which someone acquires an additional layer of vulnerability. In another article, Luna suggests with her co-author a number of examples: a lack of autonomy, problems with voluntary informed consent, cognitive impairments, stigmatization, the disrespect of one's rights, and the risk of exploitation (Luna and Vanderpoel 2013). The different layers a person accumulates should be identified; afterward, appropriate measures must be found in order to reduce the effects of these layers. But this incomplete list does not allay the worry that it may prove difficult in practice to

identify all the potential layers of vulnerability without overlooking some. These layers must also be distinguished from the layers of vulnerability that cannot be reduced or prevented.

One very influential taxonomy of the sources of vulnerability was formulated by Wendy Rogers, Catriona Mackenzie, and Susan Dodds (Rogers et al. 2012). They argue that vulnerability is an under-theorized concept that needs to be further investigated and defined, given its importance in contemporary bioethics. In their work, they distinguish among three overlapping types of vulnerability, according to the source from which the vulnerability stems: inherent, situational, and pathogenic vulnerability. All humans share the same *inherent* vulnerability, due to our having a body, our needs and our dependency on others. *Situational* vulnerability results from the individual, social, political, economic, or environmental situation of an individual or group. Finally, *pathogenic* vulnerability (a subtype of situational vulnerability) stems from actions that aggravate existing vulnerabilities or cause further ones. Each source of vulnerability can be dispositional or occurrent. Occurrent vulnerabilities should be diminished, and dispositional ones prevented from becoming occurrent.

The account of Rogers et al. has the advantage of resolving the conflict between the two diverging understandings of vulnerability currently found in the literature. While inherent vulnerability describes vulnerability as a human condition, pathogenic and situational vulnerability can account for the increased vulnerability of certain individuals. However, this conception encounters two challenges. First, the account's grounding of moral obligations directly in vulnerability—that is, we have obligations toward others *precisely because* they are vulnerable—runs into a circularity problem: the vulnerable do not have a claim to protection *because* they are vulnerable. Rather, if certain types of vulnerability give rise to moral obligations, they do so because we accept the principle that those affected or concerned by these vulnerabilities have a claim to be protected. This claim cannot be grounded in vulnerability itself—as this would be question-begging—but only in other claims, which we accept on other grounds (e.g., that we should prevent unnecessary harm and wrongs from occurring). Second, it is unclear whether Rogers et al.'s three types of vulnerability refer to the very same concept (Armstrong 2017: 186). Their account encompasses many phenomena, but it is unclear whether they all fall under what we commonly perceive as vulnerability.

Thus, no satisfying definition of vulnerability can be found in the literature, so far. This lack of a precise understanding of vulnerability—due to

differing definitions and the unclear scope of the concept—has far-reaching negative consequences. On the one hand, it may lead to the neglect of some individuals who are not duly recognized as vulnerable and who are consequently denied the special protection they need. On the other hand, it may also result in the overprotection and stigmatization of those groups inappropriately designated as vulnerable. Furthermore, there may be opposition to the idea that some individuals in particular domains are in need of special protection and additional attention: if all human beings are vulnerable by their very nature, how does one justify special protection only for some? Does vulnerability not have any normative pull, after all?

And these are not the only problems. Recently, authors working on vulnerability were confronted with a new challenge: some authors went a step further and started ascribing vulnerability to animals. At first sight, this reasoning seems intuitive, for two reasons. First, many animals share basic features and properties with humans. After all, they can be harmed, they have a body and needs, and they are mortal beings. Thus, it seems evident that many animals partake in a universally shared vulnerability. The question then becomes how much this vulnerability counts from a moral point of view: does it matter morally, and if so, does it count as much as or less than human vulnerability? Second, animals can also be described as situationally vulnerable. Many animals share the properties often deemed relevant for increased vulnerability: for example, animals are unable to give informed consent. Some animal groups, such as the animals used in research laboratories, are unable to protect their own interests and are highly dependent on their care-givers. Due to these vulnerabilities—so it is argued by different authors—the animals concerned should benefit from protective measures similar to those afforded to humans in particular contexts, notably special protection and additional attention. In the case of animal research, this would mean that recommendations for vulnerable groups should be applied to research animals (Beauchamp et al. 2012; Ferdowsian and Choe 2013). This would imply, for instance, that research with these animals would only be permissible if there were minimal or no risk to the animals and if the research were in the interest of the animal. In other cases, it could also mean that some research protocols involving animals are problematic from a moral point of view and should therefore not be conducted. The implications of situational animal vulnerability for other contexts, such as zoos and circuses, remain unclear, as they have not yet been fleshed out in the philosophical literature.

All these open questions and problems have led to criticisms and concerns regarding the concept of vulnerability and its use. Some theorists argue that vulnerability does not add much to moral discourse (Levine et al. 2004), while others recommend abandoning the term of vulnerability altogether in some domains, as other—clearer—notions could be used to fulfill its function (Vladeck 2007; Wrigley 2015).

Nonetheless, vulnerability remains an established concept in political, medical, and ethical discourse. Despite its current vagueness, the term "vulnerability" will unlikely disappear from our language, nor can we erase it entirely from our vocabulary. Indeed, vulnerability discourse performs a meaningful function: to point out those individuals who may need special protection and additional attention. To abandon the concept of vulnerability without sacrificing this function, we would have to establish a new concept with equal normative force—but this new concept would probably suffer from similar shortcomings. Therefore, it would be best to come up with a more convincing and nuanced account of vulnerability.

2.4 Conditions for Defining Vulnerability

Why can't we find a convincing definition or account of vulnerability in the literature? Besides the problem outlined above regarding the scope of vulnerability, there are other reasons. First, we all probably have some intuitive grasp of what vulnerability is and amounts to. And since many philosophers presuppose that we all have a shared understanding of vulnerability, they do not feel the need to define it properly. However, it is by no means clear that we all understand the same thing when we speak of vulnerability. Vulnerability can be described in various ways, because it is a dispositional concept. When defining vulnerability, one may focus on *why* a being is vulnerable; one can focus on the *conditions* under which vulnerability manifests; or one can focus on its different forms of *manifestation*. That is, different accounts of vulnerability often focus on its different aspects, without specifying which one. For instance, one could focus solely on the *reasons* why a being is vulnerable and thus explain vulnerability by referring to our embodied nature or to the fact that we are mortal beings with needs and interests. Another definition could focus on the different *manifestations* of vulnerability, such as being harmed or exploited. However, a satisfying account of vulnerability should not solely focus on one aspect, but rather encompass the whole picture. Second, the groups we deem vulnerable may change over time. For instance, the Belmont

Report was a reaction to the Tuskegee syphilis study, described above, in which a poor, rural racialized population was used in research to study the development of untreated syphilis. Many definitions of vulnerability are in reaction to cases that previously posed ethical problems. The interpretation of situational vulnerability therefore evolves over time, and different features are emphasized depending on the context.

So how should we proceed? What should a convincing account of vulnerability look like? What conditions or desiderata should it fulfill? A convincing account of vulnerability should resolve the conflict between the universal and situational understanding; it should be able to handle the different case scenarios of what we would intuitively consider instances of vulnerability; it should also be able to explain why and how vulnerability matters from a moral point of view; and finally, it should be able to clarify both the connections and the differences between vulnerability and other important concepts, such as justice, dependency, autonomy, sentience, and the like. In sum, to satisfactorily respond to these challenges, convincing accounts of vulnerability should fulfill the following three conditions:

(i) be able to account for both the universal and situational conceptions of vulnerability;
(ii) be easily applicable to different cases and scenarios—that is, be general in scope; and
(iii) be able to explain why some vulnerabilities are morally relevant and require action.

But what type of definition is the best candidate to fulfill these conditions? There are different types of definitions, and thus different possible ways to proceed. Yet many classical ways of defining vulnerability turn out to be inadequate.

If one wished to explain vulnerability by relying on its etymology and the history of the term, it would be defined as follows according to the *Oxford English Dictionary*: a vulnerable entity (from Latin *vulnerabilis*, wounding) is an entity that may be wounded, is susceptible of receiving wounds or physical injury, is open to attack or injury of a non-physical nature, and the like. According to this dictionary definition, vulnerability amounts to being exposed to the possibility of physical or mental harm. Being "vulnerable" in this sense does not mean that someone is *actually* harmed, but that they are *susceptible* to harm, such as pain and suffering. Vulnerable entities *may* be harmed under some circumstances. Accordingly,

this definition emphasizes that vulnerability is a dispositional concept, since it makes reference to the potential state of an object, as outlined earlier. However, this approach to defining the concept is clearly insufficient: by focusing solely on the different forms of manifestation, it leaves out the reason for vulnerability as well as its ascription conditions. Consequently, such an approach cannot tell us much about how the concept should be used in contemporary bioethics or in other fields, such as humanitarian aid.

A second possibility for defining vulnerability is to consider its use in everyday language and conversations. Such an approach, frequently used by ordinary-language philosophers, is called a *lexical* definition. In ordinary language, "vulnerable" means that one may be attacked or injured in some way, or that one is susceptible to being emotionally damaged or offended. Definitions focusing exclusively on the usage of a term are often criticized, however, since they do not necessarily rely on univocal criteria for the concept to be defined. Furthermore, such definitions are often too broad, as they do not address the scope of the *definiendum* (the expression that is being defined). This complicates the determination of who the vulnerable individuals are and what properties they commonly share. In addition, such an approach usually just lists different uses; that is, it refrains from arguing in favor or against a certain use, and it cannot mediate between, or reconcile, different diverging understandings. We cannot, therefore, properly deduce what vulnerability means in a certain domain from the common-language use.

A third option for defining vulnerability is to present a *stipulative* definition, by which one determines the meaning of a term oneself, for the purpose of one's project. In practice, this means that one establishes or fixes a meaning and continues working with it, regardless of the concept's former uses. Such a definition might be useful if one is looking for a working definition by which a certain problem or specific case can be resolved, as when international organizations sometimes define minority groups as vulnerable populations; insofar as their aim is to protect these specific groups, it is not necessary to thoroughly investigate what vulnerability means in general. However, this is not a viable option for the present study, which aims to determine what can be understood as vulnerability in bioethics. The definition I am seeking here should, as outlined before, be formal in scope, resolve the conflict regarding the scope of vulnerability, and cover different intuitive case examples of increased vulnerability. A

stipulative definition is diametrically opposed to this aim—it would simply posit what I wish to investigate.

Given the various conditions under which vulnerability manifests itself, one cannot straightforwardly indicate the necessary and sufficient conditions of vulnerability ascriptions. Vulnerability seems too wide and too diverse a concept to be defined in this way. One way out of this problem might be to define vulnerability in terms of overlapping circles of family resemblances. The concept of "family resemblance" goes back to Ludwig Wittgenstein's *Philosophical Investigations*. For the (later) Wittgenstein, "the meaning of a word is its use in the language" (Wittgenstein 2009: § 43)—but there is often no uniform use of a certain term, and there may be several different meanings. According to Wittgenstein, one can discern, among the various uses of a term, a complicated network of overlapping and crisscrossing similarities. This is what he calls family resemblances (*Familienähnlichkeiten* in German). They do not spell out any necessary and sufficient conditions but rather consist of similarities. Wittgenstein presents the concept of "games" as an example of family resemblances: different sorts of games are all linked by similarities, in virtue of which it is intuitively clear to us what a "game" is, even though we would have trouble defining it explicitly (Wittgenstein 2009: § 67).

To define vulnerability using a family resemblance approach, one must examine different cases of vulnerability ascriptions and outline the different uses of said concept. Their constituents may differ from case to case, but, according to Wittgenstein's theory, there will be similarities or resemblances between them. As pointed out earlier, however, it is not clear what vulnerability actually is. Given its different uses, one cannot simply point to something and describe it as vulnerable—the concept is too complex for that. Unlike games, there probably aren't different types of vulnerability that can be subsumed under one umbrella term—only different types of manifestation. In his family resemblance account, Wittgenstein seems mostly concerned with the definition of umbrella terms that can be instantiated in different forms, which does not apply to vulnerability.

A final option for defining vulnerability is to present an *explicative definition*. Such a definition respects some central uses of ordinary language, but is stipulative about others, in order to guarantee an applicable definition for a certain domain. That is, such definitions are, to a certain extent, *ameliorative*—they aim to improve the concept at stake. The theory of explication goes back to Rudolf Carnap, who defines it as follows: "By the *explication* of a familiar but vague concept we mean its replacement by a

new exact concept" (Carnap 1947: 7). More precisely: "By the procedure of explication we mean the transformation of an inexact, prescientific concept, the explicandum, into a new exact concept, the explicatum. Although the explicandum cannot be given in exact terms, it should be made as clear as possible by informal explanations and examples" (Carnap 1962: 3). One chooses an explicative definition for concepts that are inexact and unsystematic. Thus, the aim of an explication is to offer an improved definition of a problematic everyday-language concept that needs to be defined for a certain use and domain. Accordingly, the new definition need not be extremely close to the meaning of the concept in ordinary language, nor need it capture all aspects of the concept. It should refer to its essential aspects yet remain close enough to the former concept that it can be used in its stead. Explications are thus never completely exact. One presents an explicative definition for a certain purpose, in order to work with it in a certain domain. Its appropriateness depends on whether it is a satisfactory definition or not, and whether it resolves the problems of former definitions. The correctness of an explication thus depends on the context for which the definition was made.

According to Carnap, to explicate a concept, one has to begin by looking at the everyday-language use of some fuzzy concept in a certain domain in which it is used. That is, one analyses exactly what one wishes to define, and specifies for which context. Context-dependency is important, since understanding the use of a concept in a certain context can already provide some clarification as to what precisely is meant by the explicandum in said context. Furthermore, it helps by including essential parts of the concept while excluding those that are not important for a particular domain.

Carnap outlines four conditions that an explication must fulfill: (1) it should be *similar* to the concept to be defined; (2) it should be *exact*; (3) it should be *fruitful*; (4) it should be *simple* (Carnap 1962: 5). Regarding the first condition, the explication should feature some similarity to the original concept concerning its content. However, this similarity need not be as close as possible: an overlap is sufficient. Explications do not correct the rules of language, but rather suggest a change to the rules of language for a certain domain. To explicate a term does not imply that the explicatum always replaces the explicandum. The use of the explicandum in some contexts and for some purposes is still appropriate. In the case of

vulnerability, this means that we can still use the concept in our everyday language. However, when we refer to a more "technical" use of it, designating certain groups or referring to universal vulnerability and its importance, we would refer to the new term. By "fruitful," Carnap meant that one could formulate universal statements and that the explicatum can be compared and linked with other similar (scientific) concepts (Carnap 1962: 6). And by "exactness," he meant that we can insert the concept into a system of scientific concepts.

In the case of vulnerability, this means that the definition should be formal and broad in scope, so that it can be easily applied to different scenarios and situations within one domain. One should be able to infer who the vulnerable are from an explicative definition. Additionally, one should see the relationship of the explicatum of vulnerability to other concepts more clearly. In the case of vulnerability, these other concepts would be dependency, fragility, sentience, and the like. The last condition Carnap outlines is the simplicity of the definition. According to Carnap, simplicity only becomes important if one has a choice between several useful concepts, and one must choose the best one; in such a scenario, he recommends choosing the simplest of the concepts.

Carnap recommends explicative definitions for scientific, empirical, logical, or mathematical objects; that is, he restricts himself to concepts that belong to science (his example is "pescis" for fish). One could now object that it is not an appropriate definition type for vulnerability, as vulnerability does not fall into any of these categories. However, nothing rules out the possibility of explicative definitions for other, less scientific concepts. A definition of vulnerability should fit into, and be consistent with, a general system of similar concepts and assumptions in one domain—but this system does not necessarily need to be based on logico-mathematical or empirical concepts. Hence, the fact that vulnerability cannot be defined in scientific terms or based on empirical evidence does not constitute an insurmountable objection to seeking an explicative definition for it. One can still present an exact definition that outlines specific rules of ascription and helps to resolve the question of what vulnerability means in some domains. Thus, although Carnap's explication was originally intended for scientific terms, one can nevertheless present a fruitful explication of vulnerability. Having made these clarifications, I shall now proceed to my own definition of vulnerability.

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CHAPTER 3

Defining and Defending Vulnerability

In the previous chapter, I presented the two most important interpretations of vulnerability in the literature: universal vulnerability and situational vulnerability. I argued that a convincing account of vulnerability must resolve the tension between these two conceptions, and I outlined the conditions it needs to fulfill. In the following, I introduce my own account of vulnerability. I describe the different parts of my definition in detail and I discuss which individuals should be considered particularly vulnerable. Furthermore, I distinguish morally relevant vulnerabilities from morally irrelevant ones, while differentiating vulnerability from other important notions, such as dependency and sentience. Lastly, I outline why vulnerability discourse matters and specify what role it fulfills.[1]

3.1 Defining Universal Vulnerability

As outlined earlier, most accounts of vulnerability focus merely on one or more of its aspects, such as susceptibility to exploitation, neglect of an individual's basic rights, or incapacity to give informed consent. But they thereby fail to encompass the full scope of vulnerability. All the aforementioned aspects have one common feature—their reference to *interests* that may potentially be frustrated or thwarted. Thus, it seems that universal vulnerability is determined by the possession of interests. However, not all

[1] Parts of this chapter are based on Martin et al. (2014).

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types of interests seem to be relevant: we do not think that the frustration of trivial or futile interests is at stake when we talk about universal vulnerability. Rather, vulnerability ascriptions are linked to basic or fundamental interests that may potentially be frustrated.

Therefore, I define generally vulnerable beings as follows (Martin et al. 2014: 55):

> *Vulnerable beings are individuals with*
> *- either welfare interests or*
> *- agency interests*
> *- that may be frustrated by the individuals themselves, by external circumstances or by other living beings.*

The first and second points represent the *reasons* why a being is vulnerable, while the last one outlines the potential *circumstances* of manifestation. In the following, I analyze these parts of my definition in detail.

The first condition for ascribing vulnerability to an individual is their having interests concerning their own welfare—in short, the possession of "welfare interests." Such interests have the form "X is in the interest of A," "X would be beneficial to A," or "X would make a contribution to A's well-being." For example, if an individual is suffering from pneumonia, it is in her interest to receive antibiotics. The fulfillment of some welfare interests is a precondition for the possibility of living a good life within one's capacities and wishes. These are not banal whims, but are rather interests that remain highly relevant to one's long-term well-being.

Welfare interests can be distinguished from preference interests as well as mere desires and wants. Indeed, wants and desires do not necessarily create interests: my desire that my favorite football team win the World Cup does not necessarily constitute an interest of mine. Preference interests have the form "A is interested in X," as in "Lisa is interested in expensive cars" or "Lisa loves ice cream." To be sure, the satisfaction of some personal preferences, such as expensive cars or ice cream, may increase someone's quality of life significantly. On the other hand, these preferences can sometimes be harmful, even detrimental to one's long-term welfare. This means that the satisfaction of some preference interests may not be fundamental to my overall flourishing, while fulfilling my welfare interests is necessarily beneficial to me. Such is the case with highly addictive recreational drugs: they may improve one's quality of life for a short while, but in the long term they negatively affect one's overall welfare. Hence, I

may *want* what is *not* in my interest, and I may *not want* what *is* in my interest—for example, due to weakness of will. For this reason, one should distinguish *welfare* from *quality of life* (although, at times, they amount to the same thing in practice). Taking harmful recreational drugs or pursuing extremely dangerous sports may greatly increase my quality of life over a period, but, all things considered, they are detrimental to my overall welfare.

Exactly which welfare interests matter for universal vulnerability? For my current purpose of defining vulnerability, I will not be concerned with giving a comprehensive and exhaustive list of all the welfare interests that vulnerable beings have. I will come back to this later, when I look more closely at human and animal vulnerability (including their similarities and differences). For the moment, it is only important to note that vulnerable beings have welfare interests such as those described above, and that these interests may potentially be frustrated, violated, transgressed, invaded, impaired, set back, and the like.

If welfare interests are thwarted, the individual normally incurs mental or physical *harm*, which is one type of manifestation of vulnerability. To be harmed is: (1) to be made worse off than one was before or could have been (which amounts to "harm by deprivation"); or (2) to be adversely affected physically or mentally (examples include permanent hunger, distress, coercion, a permanent state of anxiety, bearing the death or suffering of a loved one, exposure to humiliation and ridicule, or disregard of one's autonomous decision-making). Manifesting vulnerability is therefore not reducible to mere physical suffering and pain. Individuals suffering from congenital analgesia cannot experience any pain; nonetheless, they can still encounter harm in various forms and see their welfare diminished.

However, not all negative effects incurred by someone constitute morally problematic harm. It does not count as harm if one's trivial preference interests are frustrated: a game lost by a fan's favorite football team or a boring plate of food served to a gourmet do not constitute harm. These experiences may very well distress or irritate us, yet they do not harm us. Furthermore, one is not harmed if one's personal feelings are hurt. For instance, we would not—or better, should not—prohibit *in vitro* fertilization or same sex marriage on the basis that adoption of these practices may hurt someone's feelings, because even if they did, the result would only be a minor harm that does not outweigh the benefits of these practices for others. There are various other unpleasant mental and physical states as well as offenses that do not rise to the level of harm. If my preferences are

frustrated, I may be unhappy, disappointed, bored, and the like—but usually I am not thereby harmed.

Not all harmed states are morally problematic to the point of demanding action or compensation. Sometimes, it is not in our ability to satisfy the welfare interest in question, or an individual is made worse off by external natural circumstances that one cannot influence. Thus, even if some welfare interest of mine is frustrated and I am incurring harm, this is not necessarily problematic from a moral point of view. I will distinguish morally relevant from morally irrelevant harm later in this chapter.

Harm is often, but not always, experienced subjectively; in other words, harm is commonly perceived as harm by the individual concerned. However, one can sometimes be adversely mentally or physically affected without having a conscious impression of this fact. Imagine conservative women in sexist societies who are constantly oppressed, hindered, and intimidated. Some of these women may think, due to indoctrination, that they deserve no better treatment due to their gender. Consequently, they would not say that harm was being inflicted upon them. However, objectively, these women are harmed—they are deprived of the respectful treatment they are due—although they would disagree. The reason behind this is that if they were given all the available information and options, they would most likely not agree to their oppression. Thus, a relevant welfare interest need not be consciously acknowledged by its bearer. I can have welfare interest X even if I am not aware of it (which is often the case for infants, for example). It still counts.

Determining the harm related to welfare interests does not involve any reference to how others fare. For example, having one's need for nourishment unmet represents the frustration of a welfare interest, regardless of whether others are worse or better off. Comparisons to other individuals are not necessary. Rather, frustrations of welfare interests are determined by referring either to the previous state of the individual when the welfare interest was satisfied (in the case of making someone worse off) or to a relevant counterfactual state (if the welfare interest has not yet been met, but could be in the future).

Not all frustrations of welfare interests necessarily result in harm. There are some cases in which a welfare interest is consciously disregarded by a moral agent (e.g., due to disrespectful attitudes) and the individual the moral agent is interacting with does not encounter any harm. In this case, the individual is *wronged*. Wrongs are acts or omissions that are imposed on someone by a moral agent and which are regarded as morally

objectionable insofar as they cannot be justified. Examples include: bringing someone into existence with the mere aim of using her as a slave, if the alternative was that the individual would not have existed at all; epistemic injustices, that is, situations in which someone's testimony is not trusted, for instance due to their gender or race, and the person is not made aware of this distrust; trying to shoot someone and discovering that one's gun was not loaded; and some cases of over-determination in which an individual is killed by two persons at the same time.[2] In these cases, one cannot usually recognize any mental or physical harm in the form of suffering or pain, and the individual is not made worse off than before, as they are not adversely affected mentally or physically. Nonetheless, these cases represent serious moral wrongs.

To summarize, I have made a distinction between harm on the one side, and mere wrongs without any experienced harm on the other. Individuals are *harmed* if welfare interests that were previously satisfied are suddenly frustrated—they are adversely affected physically or mentally or they incur harm by deprivation. They are made worse off than before or than they could have been. *Mere wrongs* do not involve any harm—the victim may not even notice that she is a victim, as she is not negatively affected by what is happening to her, or she is unaware of it.

Welfare interests do not depend on species; rather, individual traits and capacities are what matter. Referring to species welfare may be problematic: there may be non-typical or non-paradigmatic species members whose welfare interests may differ from those of their fellow species members. This may be because they lack some capacity, or because they have higher capacities than their fellow species members. Consequently, they may have different interests and needs than other members of their species. That is, the interests of individuals matter, not the general interests of typical members of their group.

The second condition for vulnerability ascription is the possession of agency interests. These are individual values, focal aims, principles, and beliefs which the individuals in question pursue, and which may be subject to setbacks (Sen 1985: 203). Individuals consciously or unconsciously adhere to these values, aims, and beliefs, wishing to protect them as well as their freedom of choice and autonomy. Thus, my definition of vulnerability also accounts for the importance of personal values, individual goals and autonomous decision-making when shaping the course of one's life.

[2] For a detailed account of harmless wrongdoing and over-determination, see Parfit (1984).

Importantly, agency interests do not concern any futile goals or values: they only concern goals which are well-considered and which matter to the individual concerned over the course of time. Some values may be religious, others political, and again others educational. For example, most individuals not only value their autonomy, but also adhere to religious beliefs, make life-plans, defend political views, and aim to protect their privacy.

The frustration of some agency interests may result in harm for the individual concerned. For example, having one's autonomy ignored may cause severe mental distress. However, as in the case of welfare interests, frustrating someone's agency interests need not necessarily result in harm as formerly defined (i.e., being physically or mentally adversely affected or made worse off). It may even be the case that acting against someone's personal values strongly increases the individual's welfare; nonetheless, such an action may be morally problematic. An example is enforced blood transfusion to Jehovah's Witnesses. Imagine that during a planned operation, a member of this religion unexpectedly and urgently needs a blood transfusion. Beforehand, the patient had explicitly expressed refusal of blood transfusions and was aware of the concomitant risks. However, in order to save the patient's life, the medical doctors in charge choose, against their patient's will, to transfer blood, and conceal this fact after the operation. Such behavior by the physicians may be considered to have significantly increased the welfare of the patient. Although it does not result in any measurable or experienced *harm*, it nevertheless constitutes a *wrong*, since the doctors did not respect the patient's autonomous decision-making and religious beliefs.

Other examples of harmless wrongs are the use of individuals' organs after their death if they had explicitly declared opposition to organ transplantation beforehand; trespassing on land without the landowner's noticing it; secretly reading a partner's emails, letters, or diary; wrongly breaking promises that do not result in any harm to the promisee; being followed and filmed without informed consent; and in the domain of healthcare, cervical palpation in non-consenting anesthetized patients (Wainberg et al. 2010), or breaches of confidentiality without the patient's noticing the disclosure of their personal information. None of these scenarios necessarily result in any harm, yet they may still deny the satisfaction of one or several agency interests of those concerned, and thus they represent wrongs from a moral point of view.

So far, I have argued that we may manifest our vulnerability if our welfare or agency interests are disregarded and we consequently encounter harm or mere wrongs. One may object that interests are the wrong currency for vulnerability ascriptions, and argue in favor of understanding vulnerability based on the possession of *needs*. However, I do not think that a needs-based theory can entirely encompass all the factors that are crucial for a convincing account of vulnerability. Statements that refer to needs are insufficient if they do not refer to some final end or interest. Consider the following examples: "humans need water on a daily basis," or "employees periodically need a break from their work." There is something missing in these statements—namely, the final aim. *Why* do we need food, and *why* do we need breaks? Because we value surviving, work-life balance, health, and the like. These are our final interests. Thus, statements such as "Sally needs X" suggest that X (or something related to X) is a valuable end that can usually be reformulated as an interest. What seems to be important for the individual in need is to achieve this valuable end, and not the need *per se*. Therefore, an account of vulnerability that focuses directly on these ends is superior to needs-based accounts which only indirectly address the ends in question.

Agency and welfare interests are the *reasons* for a being's vulnerability. They are basic interests we care about, and which determine whether our life is going well or not. These interests may be frustrated by individuals themselves, by external circumstances, or by other living beings—which are the *conditions* of manifestation. This may result in *harm* (wrongful or non-wrongful) or mere *wrongs* without any harm involved—that is, the different types of manifestation of vulnerability. The important question now is: which frustrations of agency and welfare interests are morally problematic, and why?

3.2 Morally Relevant Vulnerabilities

Some forms of harm cannot be prevented. Accidental injury during habitual occupations, a natural catastrophe, or an attack by someone who is not responsible for their actions may diminish our welfare or agency and may result in harm. But these events are unavoidable. Furthermore, sometimes we bring avoidable harm upon ourselves. For example, some people practice risky sports which may be detrimental to their welfare. However, if nobody had the power, duty, and ability to prevent these practices (either because it is not possible or because it would unduly infringe upon the

liberty of the person undertaking these risky activities), they cannot be considered cases of *wrongful* harm.

But there are cases where the manifestation of vulnerability *could*—and *should*—have been prevented. Wronging someone (whether harmfully or not) presupposes moral agents (i.e., persons who are responsible and liable for their actions) who have power over the frustration or satisfaction of the interests of others. These moral agents should take the welfare and agency interests of others into consideration, in a fair and impartial manner. If the means and the situation permit it, they should act upon the result of these deliberations. If someone's welfare or agency interests are not fairly considered—for example, due to biases, neglect, or prejudices—the individual can incur wrongful harms or harmless wrongs. This means that two conditions need to be fulfilled for an action to qualify as a wrong (with or without harm): (1) it must be an act or omission that is directly or indirectly caused by a moral agent; (2) it is regarded as morally objectionable insofar as it could not be justified—that is, no acceptable reasons can be presented for discounting the interests at stake.

If a person X has power over the fulfillment of the agency and welfare interests of others, X also has the *duty* to impartially take these interests into consideration: X should consider them fairly. In this case of corresponding duties, we are no longer talking only about individuals' interests; rather, we are talking about their *claims*. An individual, Sally, has a claim regarding a moral agent, Petra, if Petra has power over the impartial consideration of the welfare or agency interests of Sally, and at the same time has a duty to fairly consider these interests.

More must be said about what claims are. Claims are similar to rights, insofar as they entail corresponding duties.[3] A duty is an action that is "due" to someone, to the point of being a considered a requirement—an action that we must accomplish. Claims are thereby based on morally important interests that should be protected—a wider class than rights. Agency and welfare interests are interests important enough to hold someone to a duty. According to the view I defend here, we have the duty to justly consider the welfare and agency interests of others if we have power over their satisfaction or dissatisfaction.

[3] Rights are stronger and more binding than claims. Rights are always claims, but not all claims are rights. Therefore, for the present purpose, I chose the language of "claims," as it encompasses a wider class of morally relevant and protected interests.

Why speak of the person having power over the situation, and not of the responsible person? Having the power is implied in being responsible: being morally responsible for some negative state Y implies that one had the power to prevent Y. Power is a clearer concept than "being responsible": the person who is responsible may be (i) the one in charge (although they do not have the ability to prevent Y); (ii) or the one who could and should have prevented Y. However, regarding (i), one cannot be blameworthy for not having prevented (or having caused) Y if one could not have done otherwise. On the other hand, the agent who should have and could have prevented Y (so ii) is the one who had the power to prevent X and thus had the responsibility to do so.

It is not necessary for the moral agent to be a clearly identifiable person who is aware of their duty: Sally has a claim on the moral agent even if the moral agent does not consciously acknowledge their own power and thus their responsibility. Likewise, the individuals who have a claim do not necessarily need to utter it. One can have a claim without being aware of it or without having asked for anything—as is often the case with young children and, as will become clear later in this book, animals. Furthermore, note that a group of people, and not only individuals, can have the power over the just consideration of claims, and thus bear a duty to do so.

One may object that mentioning having both power and a duty is redundant: having the duty to φ presupposes having the power to φ. This is indeed the case. However, I regard mentioning both to be necessary, as we can have a duty to justly consider some interests which, at first sight, do not seem to belong to our realm of action. A common assumption is that we only have duties to those who are close to us, such as family members, society members, and people with whom we directly interact. However, we actually often have the means and power to influence the welfare and agency of people who are distant from us, with whom we do not directly interact and whom we do not know in person. Given that we have the power to influence the satisfaction of their agency and welfare interests, we also have the duty to at least consider their case.

In other words, we may owe duties to distant strangers. As Peter Singer famously stated, "if it is in your power to prevent something very bad from happening, without thereby sacrificing anything morally significant, we ought, morally, to do it" (Singer 1972: 231).[4] He uses the example of a drowning child in a shallow pond to illustrate his point: we all are probably

[4] The same argument can also be found in Singer (2010), as well as in Unger (1996).

inclined to save a child drowning in front of us in a pond, even if we thereby destroy our new expensive shoes or clothes. We deem this materialistic loss insignificant in comparison with a child's life. Singer's expression "something very bad" includes our actions or omissions regarding individuals living far away, with whom we do not have any direct contact or relationships. This means that we may be morally responsible or blameworthy for actions and omissions which we were not directly assigned, or which we do not immediately recognize as within our sphere moral responsibility.

According to this view, we are *prima facie* blameworthy if we do not prevent avoidable suffering which is happening far away from us, but which we could have prevented by investing a reasonable amount of money or time. Indeed, distance is not morally significant: it does not matter, from a moral point of view, if an individual is physically close to us and in our field of vision. From a psychological point of view, to be sure, we may be more inclined to help an individual who is physically close to us than an individual who is distant from us. But this psychological fact does not tell us how we ought to act from a moral point of view. If one takes the principles of impartiality and equality seriously, we should not discriminate against others just because they are farther away from us than most of the people we naturally care about.

The view that distance does not matter from a moral point of view may appear counterintuitive. Nonetheless, we commonly respect this view on a political level. For example, we expect governments, and international organizations such as the United Nations, to provide aid after natural catastrophes, or to take a stance on conflicts such as civil wars and genocides, even if they are happening far away from our own country. This is because most people are convinced that human rights—which are grounded in basic interests—ought to be protected, and that suffering is intrinsically bad, independently of where it occurs.

Many individuals make donations to help the victims of natural disasters or civil wars in distant lands. The question is whether this individual help is in some cases obligatory, or merely "supererogatory"—that is, beyond the call of duty. The fact is, individuals can sometimes help faster with financial means than international organization. Consequently, private persons may have an immediate duty to provide assistance, while the international community has the final responsibility to address the situation. Instead of donating money, individuals may also sometimes have a

duty to mobilize and to motivate politicians to act. That is, in some situations, individuals may not have financial duties but a duty to publicly express their discontent with political decisions (such as when the government of a country is failing to take actions against climate change, or when a foreign country is committing genocide). Accordingly, an individual is not only blameworthy for their actions; they are also morally blameworthy for omissions, if they have the same consequence or outcome as actions.

Implied in having a claim is an entitlement to a *fair* consideration of one's case. As a matter of justice, one's case ought to be fairly considered by the relevant moral agents. The fair consideration of the interests at stake is morally binding: failure to take them duly into account is morally problematic. One may object that it is sufficient to take claims into consideration, and deny that impartiality is necessary. However, merely taking claims into consideration is not enough. The consideration process may be rendered unfair by unjustifiably discounting some claims due to biases, one's personal preferences or discriminatory attitudes. Impartial—and thus unbiased—consideration is therefore required.

Overriding a claim does not necessarily constitute a wrong. There may be good reasons not to fulfill someone's claim. Fair and impartial consideration does not imply that all agency or welfare interests must be granted. For example, there may be restricted means available, or an urgent need to prioritize the claims of someone else. Claims are thus not absolute, but rather sit along a spectrum: they can be overridden by more important competing claims that deserve priority. Furthermore, claims may be stronger or weaker. For example, if one has to choose, one would usually prefer avoiding injury to avoiding insult.

In summary, we can distinguish the following manifestations of vulnerability: on the one side, there is non-preventable or justified harm, which cannot be considered morally problematic since it does not constitute a wrong; on the other side, there are manifestations of vulnerability which stem from an unjust consideration of an individual's claims. The latter result in either morally problematic harmful states or wrongful states with no direct impact on the welfare of those concerned. Both these states are not justified and represent wrongs that should have been prevented.

3.3 Particularly Vulnerable Individuals

In some situations, some individuals have a comparatively higher risk of having their claims disregarded (intentionally or unintentionally) or unfairly considered by others. As a consequence, they are more likely to incur wrongful harm or mere wrongs. Such individuals can be called "particularly vulnerable" in a certain domain or context:[5]

> Particularly vulnerable individuals $=_{df}$ individuals with a comparatively higher risk of having their claims disregarded or unfairly considered by moral agents.

For example, in the domains of health care, medical research and humanitarian aid, individuals can be considered particularly vulnerable when they have an increased likelihood of not having their basic claims taken into just consideration by those holding power over the satisfaction or dissatisfaction of these claims. These individuals consequently run a higher risk of being wronged (Hurst 2008).[6] To reduce this risk to an acceptable, normal level, particularly vulnerable individuals and groups should be afforded special protection and additional attention. That is, special scrutiny should be applied when assessing their case to avoid overlooking some of their claims due to neglect or biases, among other reasons.

To identify such particularly vulnerable individuals in a certain context, those in charge (such as members of aid organizations, government officials, healthcare professionals, members of Institutional Review Boards IRBs, and the like) can proceed along the following lines. As a first step, all legitimate claims of the individuals involved should be determined. Those in charge should exclude the claims that fall outside of their sphere. This may not be evident in all cases: for example, it is a subject of debate in healthcare whether medical doctors should invest time in helping their patients satisfy basic claims that are not directly related to healthcare, as in the case of patients who are victims of conjugal violence or homelessness. Another ethically challenging question concerns how much ancillary care (i.e., additional medical care that falls outside of the scope of a medical

[5] I will also sometimes use the notion of "increased vulnerability" to denote particularly vulnerable groups.

[6] See also Tavaglione et al. (2015), who describe this as "Special Protection Thesis." It states that individuals with a greater likelihood of being denied adequate satisfaction of their legitimate claims deserve special attention, care, or protection.

study) should be provided by researchers to their research subjects in a clinical trial.

During this process, special attention should be paid to group-specific claims. For example, disabled individuals, children, and members of minority groups may have additional interests, compared to other groups. Such individuals may, for instance, need special measures to enable them to access buildings; they may need to be provided with opportunities for education, play, and relaxation areas; they may need translators; they may need support from people trained in post-traumatic stress therapy; they may have specific health needs that should be met; and so on. That is, individuals' specific context has to be taken into account. Furthermore, nobody should be overlooked or neglected due to morally irrelevant properties and factors. Despite this context-sensitivity, it should be possible to list the main claims of those concerned in a particular setting.

As a second step, the people in charge should identify those individuals who run a higher risk of not having their claims taken into fair consideration—that is, those individuals who are less likely to be treated as they ought to be. Disregard of some individuals and groups and their interests may be due to mere ignorance of their specific needs, implicit or explicit biases and prejudices, language barriers, poverty, age, discriminatory attitudes, conflicts of interest, dependencies and asymmetric power relationships, potential system-inherent problems, cognitive and physical impairments, and so on. This step entails a probabilistic element, insofar as it requires predicting who is more likely to encounter wrongful harm or wrongs. Empirical studies might provide some guidance on this issue: by studying which individuals or groups commonly do not receive what they are due (e.g., because they are victims of discrimination or because they have very specific needs that are often not met), one may infer who is more likely to have their legitimate claims disregarded.

As a third step, measures must be taken to reduce the risk of particularly vulnerable groups' incurring wrongful harm and mere wrongs to an acceptable level in the specific situation—that is, a level similar to that of other groups. To this end, those in charge should recognize whether their judgements about how to handle the situation at stake are affected by biases, ignorance, and the like. For example, they should reflect whether their choice to include certain populations in a clinical study was guided by scientific and ethical criteria, or whether they chose to involve some groups because they are easily available, because they can be easily

convinced to participate (e.g., because they do not understand what the study means for them, or because they hope to get access to medical care or money without understanding the concomitant risk, as it was the case in the Tuskegee study presented in the previous chapter). In the context of humanitarian aid, aid work professionals should check whether they are about to allocate means justly, by ascertaining whether they are instead guided by biases, such as selecting the most convenient (but perhaps not the fairest) methods for assessing and treating people and distributing help.

In some cases, this may involve allocating more means or time to certain groups. For example, some populations may need to be provided with translators. In the healthcare domain, some patients may fail to understand what they are told by healthcare professionals due to a lack of education or language barriers. In these cases, those in charge of the patients' care are obligated to invest more time in explaining patients' condition and treatment in terms they can understand. Others, such as children, may need access to leisure and educational activities and resting areas in refugee camps. For still others, such as blind or deaf people, information (e.g., in healthcare systems, clinical trials, and refugee camps) has to be provided in a way that is accessible to them.

It is crucial to distinguish particularly vulnerable individuals from those who should be given priority in a certain setting. The particularly vulnerable are comparatively more likely to have their claims disregarded and thus to experience unjustified harm or mere wrongs. This does not yet tell us anything about who has priority concerning resource allocation, however. It could be the case that a not particularly vulnerable group has more urgent claims that need satisfaction than a particularly vulnerable group, for example, because the healthcare situation of the group that is not situationally particularly vulnerable is life-threatening and they consequently need urgent medical assistance. Although the situationally particularly vulnerable are those who are more likely to have their claims disregarded, this does not mean that they should be given priority in all situations.

Situational vulnerability is context-dependent. Some individuals are particularly vulnerable in some contexts, but not in others. A change of setting may, correspondingly, change the degree of vulnerability. For example, some individuals may have a risky profession: they are frequently exposed to harmful substances at their workplace or they are more likely to fall victim to workplace accidents due to unsafe equipment. They are thus more likely to encounter unjustified harm. However, this does not mean that such persons are particularly vulnerable in other domains, such

as healthcare or medical research. In this case, it is not necessarily the duty of, say, healthcare professionals to diminish the risks of harm; rather, it is the duty of the employer. Thus, to be more likely to manifest vulnerability in some context, such as at one's working place or during one's leisure time, does not necessarily imply that one is a particularly vulnerable individual in another domain, such as healthcare or medical research.

In conclusion, there is only one type of vulnerability encompassing everyone who has interests. Depending on the context and the individuals involved, vulnerability has different likelihoods of manifestation: a change in setting may render individuals particularly vulnerable who were not particularly vulnerable before. The controversy as to whether vulnerability is a property of all living beings or of only some, turns out to be a philosophical pseudo-problem. Any account of particularly vulnerable individuals in need of special protection must be embedded in a larger understanding of vulnerability—an understanding that includes all beings with interests who can be harmed and wronged.

The account of vulnerability I propose here fulfills the criteria I outlined previously: it is able to account for both a universal and a situational account of vulnerability; it is applicable to different situations and contexts; and it can distinguish morally relevant vulnerabilities from morally irrelevant ones by explaining why some vulnerabilities matter from a moral point of view whereas others do not.

The advantages of this account are manifold. It accounts for a non-ideal world in which there are conflicts of interest and where moral agents sometimes make flawed or biased judgements. Moreover, it does justice to the intuition that vulnerability is an irreducible part of human life. Furthermore, it avoids a potential stigmatization of the vulnerable: according to my account, vulnerability cannot be said to be the individual's fault, given that anyone may, depending on the context, encounter an increased likelihood of having their claims unjustly treated by those in charge. Many individuals and groups may be rendered particularly vulnerable by their environment, without this being due to any fault of their own. In the case of healthcare, for example, there may be patients who evoke implicit biases in the treating physicians, which may result in unfavorable treatment. Such neglect due to the emotions or prejudices of the treating physicians may render these patients particularly vulnerable, insofar as they are less likely to receive the treatment they are due.

My account of vulnerability further shows that vulnerability is not necessarily something negative: we do not disapprove of vulnerability per se.

Rather, what we disapprove of is its potential manifestations, such as unjustified harm and wrongs, which we seek to avoid. This implies that vulnerability is not something that can be entirely canceled or eliminated—we can only reduce its risk of unjustified manifestations.

In addition, my account explains how vulnerability is linked to morality. As outlined earlier, there is a dispute as to whether vulnerability matters from a moral point of view—and if so, to what extent. Insofar as my account of universal vulnerability is linked to the possession of interests, it might seem at first sight that it is therefore a purely descriptive notion. Since some frustration of welfare and agency interests simply cannot be prevented, it seems false to assume that vulnerability always entails a normative component. However, increased vulnerability gives rise to special duties: if someone is more likely to have their legitimate claims unjustly considered, they have a claim to special protection. In these cases, vulnerability has normative implications. But how is this duty of special protection grounded? The reason for our duty toward particularly vulnerable individuals lies in the fact that we all have a claim to the just consideration of our interests, which is independent from vulnerability. Rather, it is a requirement of justice and impartiality. If others fail to justly consider our interests, for example, due to biases or sheer ignorance, we have a claim to some sort of compensation or restoration. Obligations toward particularly vulnerable individuals are therefore not grounded in vulnerability itself.

This approach resolves the problem of other definitions of vulnerability that ground moral duties directly in vulnerability and are therefore circular. According to my account, the normative pull of vulnerability lies in the disregard or denial of independently legitimate claims. Thus, my account can non-circularly explain why moral agents have additional duties of protection in the case of increased vulnerability of some individuals. Particularly vulnerable individuals are those who are more likely to have their welfare and agency interests unfairly disregarded. They require additional attention and special protection in order to be afforded what they are legitimately due but are unlikely to receive. The special protection or additional attention should cancel out, or at least reduce, their increased risk of being wronged.

3.4 Differentiating and Defending Vulnerability

The aim of this section is to defend my account of vulnerability against potential objections, to delimit it from other ethically important concepts such as sentience, fragility, mortality, and dependency, and to outline why

vulnerability discourse matters. This will render the implications of my account more evident, while explaining how vulnerability can be distinguished from other phenomena.

The first topic I wish to address is the link between consciousness and vulnerability. One may be puzzled by the fact that I propose an interest-based account of vulnerability. Should we not regard those without any actual, occurrent interests—for example, embryos and individuals in a permanent vegetative state—as particularly vulnerable, since they are at our mercy and dependent on us? And would my account of vulnerability not entirely exclude them? Some clarifications are in order.

Who has interests? There are some uncontroversial cases. Conscious sentient humans and animals have a welfare. They care about how they fare, even if they may not be able to consciously utter this concern. They seek to avoid pain and suffering, and they strive for flourishing and pleasant experiences. By contrast, plants, rivers, and stones do not have interests: they do not have any experiential well-being of their own, and they have no interests that can be thwarted. So it seems that the account presented here presupposes a link between consciousness and vulnerability. Indeed, conscious experience seems to be a prerequisite for the possession of interests. But what is consciousness, exactly?

Being conscious implies being able to perceive something *as* something (e.g., seeing a wall as red), that is, the capacity to have phenomenal states, also called "qualia." These are qualitative states of mind that include the perception of color, sound, hunger, thirst, fear, sadness, joy, and the like. Conscious states thus encompass a wide variety of phenomena, such as simple sensations, bodily perceptions, feelings, and complex emotions. Given that my account of vulnerability is based on the possession of interests, it presupposes a mental sphere. Individuals without any conscious mental life, then, cannot be regarded as vulnerable, according to my account. Two different thought experiments may clarify this point:

> ZOMBIE THOUGHT EXPERIMENT: Imagine being A. A is an almost exact copy of a human being with a body as we all have; the only difference is that she does not experience qualia. She is unable to feel emotions or pain. Some may be tempted to call her a philosophical "zombie." She does not experience the same states of mind as humans. In fact, she does not experience any mental states at all. She does not have any emotional attitudes

> toward anything. We can therefore say that she does not have any interests concerning her person. Now imagine that A is attacked with a knife or severely insulted. Would we say that A is vulnerable to physical attacks or insults? This is improbable. She is vulnerable to attacks in the same way as countries or computers are, but not in the way ordinary humans are. A does not care whether any pain is inflicted on her or whether she is destroyed. She cannot be harmed and wronged.

This thought experiment shows the role of mental states in vulnerability. This becomes even clearer with a second thought experiment:

> CONGENITAL INSENSITIVITY TO PAIN THOUGHT EXPERIMENT: Imagine an individual B who has been unable to feel any pain since birth. Even when his C-fibers are firing on the physiological level, he does not experience any pain. But, in contrast to A, B is able to experience other mental states, such as pleasure or sadness. He only lacks mental states connected to pain. Now, would we say that person B is vulnerable? Yes. Contrary to A, B has mental states and thus interests. He may feel anxious, angry or sad when betrayed. He may feel fear when menaced, and disappointed when deceived. He therefore has an interest in avoiding negative states of mind. He may be harmed and wronged.

Individual A is invulnerable, while B is vulnerable. To be invulnerable means that one could at first sight meaningfully ascribe vulnerability to the individuals concerned. This is the case because the beings in question are similar to vulnerable beings in many respects. They share basic properties with conscious and sentient humans that make it possible for them to be considered vulnerable. At the same time, however, the individuals in question cannot incur any form of harm or be wronged. Finally, there is also a category of non-vulnerable entities. Non-vulnerable entities cannot meaningfully fulfill any of the conditions of vulnerability ascriptions. For instance, one cannot meaningfully say that a stone is vulnerable or invulnerable. The predicate just does not apply to it.

The capacity for conscious experience is a requirement for the types of vulnerability ascriptions I am concerned with in this book. However, vulnerability ascriptions go further than mere states of consciousness. They presuppose certain classes of interests—that is, welfare and agency interests. Vulnerable beings care about their lives and can be harmed and wronged—they can be exploited, injured, humiliated, and the like—or, conversely, they can flourish. Furthermore, being vulnerable involves the possibility of valuing something, namely one's life or external goods.

One may now ask whether the interests determining vulnerability must be actual and occurrent, or whether potential and future welfare and agency interests also count. A first scenario concerns cases of individuals who already exist, but who do not yet have or no longer have actual welfare and agency interests. The second scenario concerns beings who do not yet exist, such as future humans and animals. I will discuss these two options in turn.

Examples of the first case are embryos at a very early stage of development (before the development of the cortex that allows conscious experiences) or coma patients in a permanent vegetative state. According to my definition, they are not actually, but only potentially, vulnerable: they do not have welfare or agency interests that can be frustrated. However, they probably will have such interests at some point in their life, or they had them in their past. What are the moral implications? Do these individuals deserve as much protection as actually vulnerable beings? I cannot discuss this question in as much detail here as would be necessary to fully account for the problem, but I will sketch some lines of thought.

In our everyday language, we may say that embryos at an early stage of their development are vulnerable to harm. However, they do not fulfill the criteria of my explicative account of vulnerability. This is because embryos at an early stage do not yet have any actualized welfare and agency interests. Embryos may be destroyed, but since they will not have any actual interests until a later stage of their development, they cannot count as actually vulnerable, but only as potentially so. The view that embryos are only potentially, and not actually, vulnerable may at first sight appear counterintuitive. For example, one may claim that non-conscious and non-sentient embryos are always particularly vulnerable because they depend heavily on their surrounding environment, notably the decisions and actions of their mother. As a result, they have an increased risk of being wronged. Yet this is not always the case.

Dependency does not necessarily render a being particularly vulnerable to the point of needing special protection and attention: dependent individuals, such as small children or those with severe mental disabilities, do not necessarily have an increased likelihood of having their interests unjustly considered. It may be the case in some situations, for example, if caregivers have malicious intentions or biases toward them, but it is not inevitable. Such dependent entities may be particularly vulnerable in some situations, but not in others. Likewise, there may be many cases in which the future interests of embryos are duly considered.

Admittedly, though, there may be specific circumstances in which embryos and fetuses may count as particularly vulnerable and in need of special attention. Imagine a carelessly designed clinical study that involves pregnant women whose unborn children will be negatively affected by the medication being tested (e.g., the children will be born with severe disabilities). The foreseeable negative consequences for the embryos or fetuses were not considered by the researchers. In this case, we intuitively believe that the future disabled children with actual interests were wronged by the careless researchers who failed to appropriately regard the interests of the future children. The question is then whether the embryos should have been regarded as particularly vulnerable research subjects in need of special protection and attention. In this scenario, this seems to be the case. Researchers should have payed attention not only to the interests of currently existing research participants, but also to the potential future interests of the embryos and fetuses. They should have taken steps to ensure the welfare of the future children, by paying special attention to the study design and potentially harmful consequences for the embryos. Thus, in this scenario, the future children with severe handicaps were indeed wronged by the careless researchers, who should have paid more attention to the embryos and their future interests and well-being.

Even if embryos or individuals in a persisting vegetative state are not currently but only potentially vulnerable, this does not logically imply that one can do with them whatever one wishes, for vulnerability is not the only reason why a being may be worthy of moral consideration. Although embryos and patients in irreversible and profound vegetative comas cannot be considered actually vulnerable, they may nevertheless be regarded as being morally relevant and thus as having moral status. This may be due to their intrinsic value, to their dignity, or to an extrinsic value (i.e., their value in virtue of their relationship to others, such as caregivers and their family). By restricting vulnerability to a certain class of beings, it is not implied that those who do not necessarily fulfill the conditions of vulnerability ascriptions fall outside the scope of morality altogether, as if they were entities that did not count from a moral point of view. Claims for their protection simply need to be grounded differently. Vulnerability is therefore not a necessary condition of moral status. The question of "Who is morally relevant?" needs to be distinguished from the question of "Who is vulnerable?" The class of entities that should receive moral consideration is larger than the class of those who are vulnerable.

The second scenario to discuss concerns vulnerable future individuals—ones who do not exist yet, but who will or might exist one day. One could raise the question of whether it is possible to wrong future vulnerable beings, for example, by destroying the environment they will live in (which will negatively affect their welfare) or simply by bringing them into existence in a hostile environment. Let me thus sketch some ideas here regarding the creation of new vulnerable beings. One might be tempted to argue that existence, as miserable as it may be, is always better than non-existence. However, such an argument immediately runs into metaphysical difficulties: existence and non-existence cannot be easily compared. Regardless, this comparison is not necessary for making the argument that it may sometimes be wrong to bring someone into existence. It is sufficient to believe that non-existence would have been preferable. Imagine for this the case of Anna and her son Beat. Beat lives an extremely miserable and painful life (due to a congenital disease), and Anna could have easily prevented his existence, for example, by postponing conception. Here, one could say that even if one cannot compare non-existence to existence, Beat could be so badly off that it would be rational and understandable if he preferred non-existence to his current situation. Compared with living with his disease, Beat could prefer not living at all or ceasing to exist, as his suffering outweighs all pleasures (or there is no pleasure at all, only pain and suffering). One can thus wrong individuals by bringing them into existence if—from their point of view—they will lead a thoroughly miserable life, and this condition cannot be changed.

In summary, future vulnerable beings may be wronged by being brought into existence under two conditions: (1) if we can meaningfully say that the individuals would have preferred not to live because their condition is unbearable; and (2) if it was in someone's power not to bring these individuals into existence and they did so regardless and knowingly. Accordingly, the future interests of future vulnerable beings—including future generations—also count and should be taken into consideration in ethical decision-making.

So far, I have outlined the connection between vulnerability and conscious experience. One may now raise the question of what the difference between sentience and universal vulnerability amounts to. After all, according to my account, vulnerability is determined by the possession of interests. And is this not the very essence of sentience? Hence, one might argue that vulnerability is equivalent to mere sentience. However, there are two noteworthy differences between these concepts.

First, vulnerability is not equivalent to sentience, if one understands the latter—as it is usually defined—as consciousness *qua* feeling, especially the capacity to feel pain and pleasure, and if one thus understands sentience as being solely linked to one's welfare. Indeed, some frustrations of welfare and agency interests do not necessarily lead to any mental or physical harm and may occur without being perceived. Examples of wrongs that do not involve any harm include secretly reading a partner's emails, stalking an unwitting target, allowing breaches of confidentiality in healthcare, or wrongly breaking promises that do not result in harm for the person concerned. These are cases in which the privacy or other legitimate claims and values of individuals are disregarded.

Second, while sentience ascriptions point us toward those individuals who are worth considering morally (sentience is often seen as a sufficient reason for conferring moral status), vulnerability ascriptions help us to identify those individuals in need of special protection and attention because they are at greater risk of not being given what they are due. In addition, by including agency interests in my definition of vulnerability, I go beyond mere sentience to include values that we care about even when they do not necessarily have an impact on our well-being.

These considerations reveal the importance of vulnerability discourse. Vulnerability ascriptions, as they are currently used in bioethics, do not merely refer to embodiment and the capacity to feel and experience something. The universal vulnerability of sentient beings reveals the fact that these beings can not only be harmed, but also wronged. To be a particularly vulnerable individual means that one is a member of a group that is more likely to be mistreated or ignored (e.g., because of prejudices). Therefore, stating that some groups of humans are particularly vulnerable has not only rhetorical, but also normative force: it shows that increased attention is needed when dealing with these groups, that caution is advised insofar as the individuals of these groups may be more likely to be denied what they are due, and that protective measures may be required. This shows that vulnerability ascriptions serve an important purpose.

After all these considerations, the difference between vulnerability and fragility should now be clearer. Some individuals may be physically or mentally fragile. This is, for instance, the case for individuals suffering from brittle bone disease or those who easily get emotionally upset and hurt. However, as outlined before, not all frustrations of interests are morally relevant. The above-mentioned individuals are vulnerable insofar as they have interests that may be thwarted; however, they are not necessarily

particularly vulnerable and in need of special protection and additional attention in specific situations.

The last two points concern the connections between vulnerability, autonomy, and mortality. One may argue that a definition of vulnerability must be linked to a diminished capacity for autonomous decision-making. Autonomy encompasses self-rule, free from interference by others and from limitations such as inadequate understanding. It may thus be argued that a lack of autonomy leads to increased vulnerability. However, lack of autonomy is not a necessary condition for manifesting vulnerability, but only a sufficient one. We can perfectly well imagine a person who is autonomous yet particularly vulnerable, for example, if they are more likely to participate in high-risk medical studies because it is the only way to receive medical care and earn a living. Further examples include autonomous persons who are more likely to have their confidentiality disregarded or those who are more likely to be discriminated against in healthcare settings. We would regard these people as particularly vulnerable and in need of special protection, despite their being autonomous.

One may further criticize my account of vulnerability for overlooking the purportedly strong link between vulnerability and mortality. One may be tempted to argue that a convincing account of vulnerability should refer to the finitude of human corporality and, thus, to mortality. Are vulnerable beings not, after all, necessarily and essentially mortal beings? This is not the case, however. Accounts of vulnerability that focus on the fact of human mortality consider only some contingent, and therefore not necessary, features. Mortality does not determine vulnerability, as a simple thought experiment shows. Imagine an individual who has the same properties of an ordinary human being. She can physically or mentally suffer; she can be wronged or hurt. But imagine furthermore that this individual is immortal. We would still say that she is vulnerable, despite her immortality. Mortality is therefore not a necessary condition for the ascription of vulnerability to a being. The fact that we will certainly die one day should not *necessarily* be included in the definition of vulnerability for bioethics.

Nevertheless, mortality plays a role in vulnerability: we can not only be harmed by other people, but also be killed and die prematurely. Given that we have a fundamental interest in our life and in our continued existence, mortality increases our vulnerability. To continue living is one of our most fundamental interests. Therefore, we can say that mortality reinforces our vulnerability or adds an additional layer to it. Vulnerable beings not only

have interests which can be frustrated; they can also be deprived of the prerequisite for having interests at all, namely their life.

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CHAPTER 4

Animals: Vulnerable Beings?

In the previous chapter, I argued that all beings who have welfare and agency interests that can possibly be frustrated qualify as *generally vulnerable*. Furthermore, I claimed that some groups may be *particularly vulnerable* in some situations and thus need special protection and additional attention. I identified those beings who are more likely to have their legitimate claims unjustly considered or discounted by moral agents as particularly vulnerable. This may be due to sheer neglect or ignorance, biases and prejudices, or malicious intentions. That is, some groups are comparatively less likely to be given what they are due, and they thus qualify as particularly vulnerable groups which should be afforded more protection or attention.

What an individual or a group is due depends on both their characteristics and the context. For example, children and disabled persons may have specific claims that differ from those of typical adults. To list a few, children have a claim to education and schooling, while disabled children have additional claims depending on their disability, such as accessible school buildings or adapted learning materials (textbooks written in Braille, for example). At the same time, the particular setting may alter an individual's claims. To give an example, healthcare practitioners taking care of highly infectious patients during an epidemic have an additional claim to personal protective equipment, and may refuse to work if this claim is not met. Similarly, being a refugee in a foreign country may also

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lead to additional claims, such as access to housing, healthcare, and translation services.

Thus far, I have primarily discussed *human vulnerability* and its ethical implications. In what follows, I turn to *animal vulnerability*, with regard to the following question: are animals, in general, vulnerable beings? I proceed in four steps: first, I assess whether the conditions for ascribing vulnerability—namely, the possession of agency and welfare interests that could be thwarted—can be applied to some animals. I answer this question in the affirmative. Second, I identify animals' most important welfare and agency interests: an interest in the absence of hunger and thirst; an interest in the absence of suffering, such as pain, injury, and disease; an interest in expressing and pursuing normal behavior; an interest in the absence of discomfort, fear, and distress; an interest in leading a self-determined life; and an interest in continued existence. Third, I discuss whether these interests represent *legitimate claims* on animals' part that ought to be duly considered by moral agents. I defend the view that moral agents do indeed owe animals certain direct duties, and that speciesism—that is, a form of discrimination based on species-membership—must be rejected. Furthermore, I argue that when evaluating animals' interests, moral agents must apply the *principle of equal consideration*: equal and relevantly similar interests should be given equal weight, regardless of whose interests they are. Fourth, I conclude that animals' basic interests, as outlined above, are legitimate claims that should be fairly considered by moral agents. This list of basic claims will serve as the basis for the following chapters, in which I will examine whether some animals should be regarded as *particularly vulnerable* in certain contexts and situations.

4.1 Animals: Universally Vulnerable Beings?

Are animals generally vulnerable beings? That is, do at least some animals fulfill the conditions for vulnerability ascriptions outlined in Chap. 3? To answer this question, we first need to investigate whether animals have welfare and agency at all. In the 1970es, philosophers debated whether or not animals have interests at all (for a discussion see, e.g., Frey 1977; McCloskey 1979). Given our current knowledge, however, it is now widely accepted that *sentient animals* (animals who are able to feel something)[1] have welfare interests that could be thwarted: it is in the

[1] This likely excludes oysters and mussels.

interest of sentient animals to satisfy their basic desires and needs, such as for adequate nourishment, shelter, water, health, and rest, as well as to avoid mental and physical distress. If these interests are not satisfied, the animals usually experience some form of *harm*. Minimally, sentient animals have welfare interests and thus fall within the group of generally vulnerable beings: their lives can become better or worse for them, and they care about how they fare in life—they prefer to be better off than worse off. Animal welfare, in general, amounts to the satisfaction of basic biological and psychological needs. This satisfaction should be enduring—ideally throughout the animals' entire life. "The good life" for animals thus depends on the enduring satisfaction of their most important welfare interests.

A few words about fish and insects. For a long time, it was assumed that fish were incapable of suffering. However, recent research suggests that fish likely experience pain in a manner similar to other vertebrates (Sneddon 2019). In addition, some fish have complex cognitive capacities such as memory; they can use tools; they form social bounds; they recognize themselves and each other; they even cooperate (Brown 2015). That is, fish have welfare interests, at the very least, and perhaps additional interests related to their agency. Consequently, we can add fish to the list of animals fulfilling the conditions for vulnerability ascriptions.

The case of insects is more complex. It is still an open debate whether insects are conscious and sentient beings, and disagreement persists about the methodological approach needed to settle this question once and for all (Birch 2020). The answer to the question "What is it like to be an insect?" is disputed, and it is unclear whether insects can experience pain, distress, frustration, happiness, and the like. For example, a study showed that injured bees who were offered both a pure sucrose solution and a sucrose solution with morphine did increase their liquid intake, yet did not show a preference for the solution with the analgesic. The authors of the study concluded that more research is needed to determine whether insects can feel pain, for example, by involving behavioral observation (Groening et al. 2017).

However, if future empirical research were to determine that insects have welfare and agency interests which can be frustrated, then we would likely consider them a particularly vulnerable group. After all, insects are bred as a source of food in many countries, and they are frequently regarded and treated as a nuisance and killed without a second thought (e.g., to protect crops). Their use in experiments is rarely regulated. If it

turned out that insects consciously perceive what happens to them and experience frustration, pain and distress, then we would have to admit that our ignorance about them and their capacities rendered them particularly vulnerable. We would have to completely change the way we treat and consider them in many domains. However, for the purpose of this book, I will focus on animals who are clearly sentient, such as mammals and fish, provisionally setting aside ethical considerations about insects.

Most, if not all, sentient animals are unable to articulate what is in their interest and what matters to them, contrary to most humans who are generally capable of verbalizing their interests. As a consequence, one might say their interests do not really matter, as we can never really know what is in their interest. Note, though, that many animal species can indeed show what is in their interest and what they care about through their actions. For example, by actively avoiding injury and predation, animals can show us that they care about their life and welfare, even though they may be incapable of expressing this with words as humans do. Furthermore, by seeking out the types of food they want to eat and by attempting to preserve family bonds, animals manifest their preferences and what matters to them.

If the welfare interests of sentient animals are frustrated, these animals incur *harm* and consequently often suffer—as do humans in similar situations. We have to distinguish here between brief, slight pain, and pure suffering. Not every painful event in an animal's life constitutes suffering and is detrimental to its welfare interests. On the contrary, briefly painful vaccine injections, for example, may in some cases be favorable to the overall welfare of the animal. "Suffering," as I understand it here, denotes rather long and intense pain or distress endured by an animal.

So far, I have primarily discussed conscious and sentient animals' *welfare* interests. A more controversial question is whether animals also have *agency* interests. I previously defined "agency interests" as interests in pursuing the life one wants, by following one's individual values, main goals, principles, and beliefs—that is, the interest in actively choosing the life one wishes to live in accordance with one's values, goals, and beliefs. Individuals usually strive to protect their values and aims as well as their freedom of choice and autonomy. Agency interests thus cover a larger span than a mere interest in autonomous decision-making (whereby autonomy is understood as self-governing actions). Both autonomy and freedom of choice are aspects of agency, but not the only ones: following one's values, goals, and beliefs form another crucial part.

The question is then whether animals sometimes intentionally pursue actions in view of goals or hold values that can be thwarted, similarly to humans. That is, are animals active agents who shape the course of their own life? And if so, what kind of goals, values, and aims do they pursue? In the case of humans, we may hold personal values, such as leading a self-determined life or wishing our family's well-being—and we choose suitable actions to realize these ends. Similarly, some animals also act according to what we perceive to be values and goals. Animals may, for example, strive for an "advancement in a social hierarchy, collection of a harem, protection of the newborn, and in some species (wolves and geese, for example), raising a 'family'" (Feinberg 1984: 59). Furthermore, some animals value freely choosing with which animals (and humans) they interact, and others aim to defend and even increase their territory. Although animals may not be able to consciously utter or frame such goals and values, they show that they care about them through their actions. Thus, some animals have some goods and values they wish to attain, although they may not be able to consciously frame them.

One might object here that animals may value cultivating their relationships, raising a family, advancing in the social hierarchy, defending their territory, choosing how they spend their time, and the like, but that none of these interests really represent agency interests. After all, animals may just pursue these goals *instinctively*, as they are incapable of *consciously* revising and changing their values, goals, beliefs, and the like—that is, animals lack the capacities relevant for autonomous agency (Cochrane 2012: 11). The underlying assumption is that agency interests must, by definition, be consciously held and consciously alterable. To give a (rather trivial) example, I may want to eat a chocolate-peanut cake, which is a first-order volition or preference interest. However, I may want not to want to eat this cake because it is unhealthy, because I want to lose weight, or because I know that I am invited to a dinner party in half an hour. Thus, I can decide to refrain from eating chocolate cake and instead give priority to some more important value or aim in my life, such as maintaining good health (a long-term goal) or leaving room in my stomach for more food later on (a short-term goal). One might argue that animals lack such a distance from their goals and values or are incapable of revising them, and that they thus lack the reflective capacities necessary for having agency interests.

However, at least some animals seem capable of revising their primary desires, interests, preferences, and aims: they are capable of *not* wanting

some good X in favor of some other good Y. That is, some animals prioritize some desires over others, which shows that they actively choose what interests they deem more important compared to others. This indicates that many animals are not solely led by pure instincts, but actively *choose* which actions they want to pursue and which ones they regard as worthier of pursuit at a certain moment of their life. Pigeons, for example, are able to revise their desires and reverse their preferences in order to gain a more preferable food portion for which they have to wait a longer time (Ainslie and Herrnstein 1981). The same applies to cuttlefish (Billard et al. 2020). Similarly, other animals collaborate (and consequently share their ration) to obtain tastier food instead of a direct but smaller reward or no reward at all. Elephants, for example, waited up to 45 seconds for other elephants in a difficult task because they were aware that if they moved a rope by themselves, they would not receive the award they desired (Plotnik et al. 2011). Rats prefer to help other rats in pain or trouble instead of receiving a highly enjoyed food reward such as chocolate, and they also deny themselves the reward if it inflicts pain on other rats (Ben-Ami Bartal et al. 2011; Hernandez-Lallement et al. 2020). The same was found for monkeys (Masserman et al. 1964). Some birds—such as magpies—are more likely to share their food with their conspecifics who have none, which shows prosocial behavior (Massen et al. 2020). These examples illustrate that some animals actively choose between options, selecting the one they deem more valuable at a specific moment. They are capable of prioritizing some desires, goals, and interests (such as helping others) over others (such as getting food as a reward for only themselves), and they thus actively choose which goals they want to pursue at a given moment.

To summarize, many animals have not only welfare interests, but also agency interests. That is, they have values and goals they actively pursue through their actions. Furthermore, some animals are capable of prioritizing some desires over others, and they act accordingly. If animals are thwarted in the satisfaction of their agency interests, in most cases they incur harm—in other words, the frustration of the agency interest has a harmful impact on the animal's welfare. For instance, if we impede animals from having those social interactions with conspecifics they want to pursue, they may experience distress or even suffering. Conversely, in many cases the *satisfaction* of animals' agency interest has a positive influence on their welfare.

4.2 The Basic Interests of Animals

In the previous section, I established that some animals satisfy my definition of vulnerability: they have welfare and agency interests that could potentially be thwarted. The question now is: what is the exact nature of these welfare and agency interests? After all, welfare and agency interests represent large classes of interests, and need to be fleshed out. This is important, as understanding the basic *interests* of animals will help to determine what *claims* animals potentially have. These claims, in turn, are relevant to whether some animals are particularly vulnerable in some contexts, such as in research, in agricultural settings, and in the wild—topics broached in Chaps. 5, 6, and 7. Furthermore, we need to establish whether these interests depend on the characteristics of individual animals, or whether all animals of the same species share the same interests. To begin, I analyze animals' welfare interests, and then I will turn to their agency interests.

There are some basic, fundamental interests that all vulnerable animals share. A useful starting point for determining animals' welfare interests are the "Five Freedoms of Animal Welfare" developed by the UK Farm Animal Welfare Council FAWC in 1979 (Farm Animal Welfare Council FAWC, Website archived on 2012). These five freedoms are:

1. Freedom from hunger and thirst—by ready access to fresh water and a diet to maintain full health and vigor.
2. Freedom from discomfort—by providing an appropriate environment, including shelter and a comfortable resting area.
3. Freedom from pain, injury, or disease—by prevention or rapid diagnosis and treatment.
4. Freedom to express normal behavior—by providing sufficient space, proper facilities, and company of the animal's own kind.
5. Freedom from fear and distress—by ensuring conditions and treatment which avoid mental suffering.

These Five Freedoms are considered by the FAWC to be essential for *establishing* animal welfare as well as for *evaluating* animal welfare. For the current analysis, I suggest reformulating them as interests:

1. Interest in the absence of hunger and thirst
2. Interest in the absence of discomfort

3. Interest in the absence of pain, injury, and disease
4. Interest in expressing and pursuing normal behavior
5. Interest in the absence of fear and distress

More must be said about these different interests. The interest in the absence of pain, injury, and disease (under point three) can be subsumed under an interest in the absence of suffering, broadly conceived: similarly to humans, sentient non-human animals strive to avoid different forms of suffering, such as long-lasting disease, injuries, and pain. The interest in the absence of discomfort and the interest in the absence of fear and distress (points two and five) can be combined. They do not amount to suffering, but rather lighter forms of distress and discomfort which may negatively impact the animals' welfare. Furthermore, animals should not only have the opportunity to express "normal" behavior but also enjoy possibilities to pursue such behaviors. The list of interests can be adapted and rephrased accordingly:

1. Interest in the absence of hunger and thirst
2. Interest in the absence of suffering (pain, injury, and disease)
3. Interest in expressing and pursuing normal behavior
4. Interest in the absence of discomfort, fear, and distress

These are basic interests which strongly influence and determine animals' welfare, and consequently their flourishing. They constitute preconditions for the possibility of living a satisfactory life. They are not frivolous interests, but rather basic ones that persist over time and contribute to the animals' well-being.

One may wonder whether there are species-dependent differences regarding these interests, and whether individual animals can have interests that differ from those of their conspecifics. Some interests are indeed universally shared by all animals fulfilling the conditions for vulnerability ascriptions, notably the interest in food and water, as well as the interest in the absence of distress and pain. Other interests depend on species-membership. For example, some animal species value living in packs, while animals of other species may be solitary. For some species, play forms an important part of a good life, while this may be of less importance to other species.

Furthermore, individual animals may have specific interests that differ from the interests of their conspecifics. Such individual differences are

especially relevant to the interest in pursuing and expressing normal behavior. What amounts to "normal" behavior may differ among individual animals of the very same species. That is, individual animals may have preferences and interests that differ from those of their fellow species members. The category of "normal behavior" should thus be understood as "normal" or typical behavior *for the individual animal*—which may vary from one animal to another. For example, one pig may be very keen on regular exercise such as running; another pig may prefer spending her day sunbathing; a third pig may prefer spending her day socializing with humans or other animals. Insofar as such individual preferences contribute to the welfare of individual animals, they should be taken into account: the animals should be provided with sufficient opportunities to live out their individual behavioral preferences.

Two interests have not been discussed in detail so far: the interest in self-determination, and the interest in continued existence. As mentioned above, some animals have *agency interests*, and strive, for example, to advance in their social hierarchy. Others aim to defend or even increase their territory. Others still wish to roam freely and explore their surroundings. Beneath these variations, animals share some basic interests related to their agency: to follow their preferences regarding what they eat, whom they interact with, where they go, and what they do. Hence, like humans, many animals have a basic interest in *self-determination*: they have an interest in freely determining and shaping the course of their life (be it making important choices, or simply following their preferences), as Sue Donaldson and Will Kymlicka aptly explain: animals "have the need and desire to exercise control in their lives—not just to make temporally localized decisions (what we have called 'micro agency') about when to eat or to sleep, but also significant decisions about the general shape and structure of their lives ('macro agency') concerning where and how they live; who they mate with, live with and associate with; what sorts of activities they learn about, engage in, and pursue mastery of" (Donaldson and Kymlicka 2016: 235). Hence, animals have an interest in determining how their life proceeds—regarding decisions small and large.

There is debate in the literature as to whether animals' interest in freedom and self-determination is intrinsic or rather merely instrumental (Cochrane 2009a; Garner 2011; Cochrane 2012; Giroux 2016; Wilcox 2020; Healey and Pepper 2021). This debate is not currently germane to the arguments presented here, however. What is relevant here is that at least some animals have an interest in determining the course of their life by and

for themselves, regardless of whether this interest matters merely instrumentally for the sake of an animals' well-being or purely intrinsically.

A second interest not mentioned in the list of the Five Freedoms is an interest in continued existence, as the Five Freedoms were established as a list about *farm* animal welfare, for whom death by slaughter is commonly unavoidable. Nevertheless, whether animals have an interest in continued life is a fundamental question which must be addressed, since it has an impact on how we are permitted to use animals and if we are allowed to kill them.

Indeed, death amounts to an irreversible deprivation of the possibility of future pleasurable experiences, and thereby of one's most important good, namely one's life. That is, death is a harm by deprivation: it deprives us of the possibility of any future experiences (Sapontzis 1987; DeGrazia 1996; Regan 2004; Rollin 2006). As Tom Regan states: "death forecloses *all* possibilities of finding satisfaction. Once dead, the individual who had preferences, who could find satisfaction in this or that, who could exercise preference autonomy, can do this no more. Death is the ultimate harm because it is the ultimate loss – the loss of life itself" (Regan 2004: 100).

Thus, death forecloses *all* future opportunities to satisfy one's interests, which is harmful. The "badness" of ending an individual's existence is proportional to the amount harm it causes—that is, the more it deprives the individual of. This deprivation must not be understood in terms of pure lifetime duration that is lost, however; for instance, we usually deem the death of an adolescent who had made long-term plans for her life worse than the death of a baby directly after birth. That is, the quality and intensity of the lost time as well as the number of future interests that are frustrated also count. This means that identity over time matters—how much we are connected by psychological continuity to our own future and plans. Jeff McMahan called this the "Time-Relative Interest Account" (McMahan 2002: 194). It can explain why the death of a teenager is worse than that of an embryo (although the latter loses more lifetime, if we take the average lifetime of an adult as our basis), or why a young person may have much stronger interests in some future pleasurable events than a ninety-year-old person. Death does not usually represent the same harm by deprivation to these different individuals; rather, death is worse according to how much one is connected to plans and anticipations of one's own future. These considerations will become more relevant to the case of animals in the following chapters, in which I discuss the killing of animals for meat or medical research.

Animals, too, can be harmed by death, as death deprives them of all the future goods they could have experienced. If we kill a dog, for example, we deprive her of future enjoyable interactions with other dogs and her human companion, such as her daily walks or opportunities to frolic on the beach. The same applies to other animals, such as pigs and cows: by killing them, we deprive them of their family bonds, pleasant future moments, and the goods they normally enjoy throughout their life. That is, the interests of animals are frustrated when they are irrevocably prevented from enjoying potential future experiences.

To sum up, sentient animals have a basic interest in continued existence. This interest persists and exists even if animals may not be consciously aware of this interest or be able to conceptualize or express it. This lack of awareness does not pose a problem, as Alasdair Cochrane illustrates: a young child may not be aware that she is constantly inhaling oxygen and exhaling carbon dioxide; nevertheless, "it would be strange to say that she has no interest in breathing, for breathing straightforwardly benefits her. In light of this, it is plausible to claim that sentient animals possess an interest in continued life if it can be shown that continued life benefits them" (Cochrane 2009b: 437).

The same view—that animals do not have to be conscious of their interest in continued existence in order to hold this interest—is also defended by David DeGrazia. He claims that death harms animals by depriving them of valuable opportunities which continued existence would have made possible. It does not matter whether animals can consciously grasp the concept of death or the value of their own existence (DeGrazia 2009: 161).[2]

Thus, it seems reasonable to add both the interest in self-determination and the interest in continued existence to the list of animals' basic and most important interests:

1. Interest in the absence of hunger and thirst
2. Interest in the absence of suffering (absence of pain, injury, and disease)
3. Interest in expressing and pursuing normal behavior
4. Interest in the absence of discomfort, fear, and distress
5. Interest in self-determination
6. Interest in continued existence

[2] Note that some philosophers, such as Monsó and Osuna-Mascaró (2020), defend the view that some animals may actually have a concept of death.

This updated list represents animals' most important interests, yet two questions remain open. First, it is unclear whether these interests represent *legitimate claims* by animals that should be taken into consideration by moral agents—a question to which I turn in the next section. Second, to what degree do these interests still count if they conflict with the interests of humans or other animals? This question will be discussed in Chaps. 5, 6, and 7.

4.3 The Moral Status of Animals

As shown in the preceding section, some animals have at least six basic welfare and agency interests: the interest in the absence of hunger and thirst; the interest in the absence of suffering; the interest in pursuing and expressing normal behavior; the interest in being free from discomfort, fear, and distress; the interest in self-determination; and the interest in continued existence. But are these interests of moral importance? Are moral agents obligated to take them into account, and if so, how much weight do they have compared with human interests? That is, do these interests constitute legitimate claims by animals, requiring duties of us as moral agents?

To answer these questions, it is necessary to recall the conditions for claims I outlined before. Individuals have a claim if they have an important interest and there is a moral agent who has the power to consider and eventually satisfy these interests (welfare or agency interests) and who at the same time has a *duty* correlated with these interests. Thus, for an *interest* Z to become a legitimate *claim* Z requires that there be a moral agent with the *power* over the satisfaction of Z and a *duty* to consider Z in his or her moral deliberation. Indeed, moral agents do sometimes have power over the satisfaction or dissatisfaction of animals' interests. For example, we can decide whether or not to eat animals, to torture them for our pleasure, to keep them in small cages, to feed our companion animals or to let them starve. But do we have a *duty* to undertake some of these actions and to refrain from others?

Answering this question presupposes that we determine the moral status of animals. For an individual X to have moral status, as I understand it here, presupposes that X counts morally for his or her own sake (i.e., it matters *to* X how we treat X) and that we *owe* something to X—duties of

fair consideration, for example. Thus, there is a difference between merely counting morally and having moral status: the reason why I should not carelessly destroy artwork, for example, is that it has value for myself or others—we have *indirect* duties with regards to the artwork; by contrast, I should save a drowning child for her own sake, as I owe her this duty *directly* (not to her parents, say). While the child has moral status, the artwork does not. Thus, I should take some entities (such as precious artworks) into account—I have duties *regarding* them—but I owe something to those who have moral status *directly*. In which category do animals fall?

Properties that determine moral status can be called status-conferring properties (McMahan 2005: 355). To be sure, one could argue that animals do not count for their own sake—that is, they do not possess any moral-status-conferring properties at all—and so we only have *indirect* reasons to consider them morally. For example, it is widely accepted that we should not torture animals gratuitously, but it has been suggested that we do not owe this directly to the animals themselves, but only to other humans. This is the *indirect duty view*. The German philosopher Immanuel Kant is a famous proponent of such an account. According to Kant, animals exist only as means, not as ends-in-themselves and for their own sake. Our duties toward animals, therefore, are solely indirect duties owed to humanity as such (Kant 2013: 212). That is, according to this view, animals do not matter morally for their own sake; rather, they are only worthy of moral consideration insofar as humans have duties toward *each other*. Contrary to animals, humans are moral persons, ends-in-themselves, imbued with dignity. Humans are capable of autonomous decision-making and of making their own moral laws. Thus, according to Kant, the capacity for autonomy and moral agency is a moral-status-conferring property. Animals, on the other hand, have the status of mere things and therefore only a price, not worth. They are incapable of making moral laws and thus cannot demand that other agents obey them—this capacity is unique to those endowed with rationality. According to Kant, we owe direct moral consideration only to rational moral agents—and consequently not to animals.[3]

Kant's reasoning illustrates a tendency in the history of philosophy. Many different properties have been proposed as candidates for conferring

[3] For arguments that Kant's own ethical theory can nevertheless ground direct duties toward animals, see the work of Christine Korsgaard, for example, Korsgaard (2020).

moral status: the capacity to use language, moral agency, self-consciousness, and rationality, to name just a few. But why are these properties relevant to moral status? It is far from clear why such primarily rationalistic and cognitive properties should determine moral status. As Sunaura Taylor argues in *Beast of Burden: Animal and Disability Liberation*, the reliance on such properties to determine moral status amounts to ableism, that is, discrimination against people with a disability: "When neurotypical and able-bodied human capacities are used as the measure of a being's value, both nonhuman animals and disabled human beings lose out. The characteristics that humans have used to measure cognitive capacity are no doubt signs of a certain kind of complex cognition, but they are not necessarily the only ways to measure intelligence, let alone value or worth. What's more, the criteria are both anthropocentric, because they reward only recognizably human capacities, and ableist, often leading us to discount the abilities of those with disabilities" (Taylor 2017: 72).

Indeed, disabled individuals historically were—and currently still are—frequently victims of ableism. Previously, I identified as "particularly vulnerable" those who face a decreased likelihood of having their basic claims taken into fair and impartial consideration—due to negligence, biases, prejudice, ignorance, and the like. Clearly, many disabled individuals can be considered particularly vulnerable in Western societies: their valid claims are often overlooked or insufficiently met. To give a few examples: cognitively disabled individuals are often denied political participation, despite their being perfectly capable of voting or running for office; physically disabled individuals are often denied social participation due to their environment's having been construction in an inaccessible and maladapted way. If one is in a wheelchair and/or blind, participation in public school may be difficult, if the schools fail to provide what one claims for accessibility—namely, entrance ramps, elevators, and other equipment and adaptions that would allow one to follow the lessons and take notes in Braille. That is, many disabled individuals face a decreased likelihood of being given what they are due. As a consequence, they can be deemed a particularly vulnerable group in need of special attention to ensure that they receive what they are due.

As Sunaura Taylor has shown, it is unclear why primarily cognitive capacities such as rationality and self-consciousness should confer moral status. After all, many animals have astonishing capacities that humans lack: some animals are highly agile and others can reach extreme speed. Still others communicate with echolocation. And some animal species

have an incomparable capacity to smell things. Nonetheless, we do not regard such qualities as determinants of moral status—likely because humans would then miss out.

One might accept this line of reasoning, but still reject the view that moral agents owe *direct* moral duties to sentient animals. One might advance the position that human beings have a different moral status than animals because of their membership of the human species—independently from their specific properties, capacities, abilities, and characteristics. Such views usually presuppose that membership of the human species per se justifies special treatment and a corresponding inviolability of basic rights or claims. The view that the members of some species matter more, in moral terms, than the members of other species is called *speciesism*. The term was originally introduced by Richard Ryder and taken up by Peter Singer, who presented the first detailed analysis of it in his book *Animal Liberation*: "Speciesism – the word is not an attractive one, but I can think of no better term – is a prejudice or attitude of bias in favor of the interests of members of one's own species and against those of members of other species" (Singer 2009: 6). Singer makes an analogy between speciesism, racism and sexism: both racism and sexism are unjustified discriminations based on criteria which are irrelevant to moral consideration—namely, race and gender. In turn, non-speciesists claim that discrimination based on mere species-membership is morally problematic because species-membership is a purely biological property which is irrelevant from a moral perspective.

Most animal ethicists usually do not put much effort into defining speciesism; they concentrate instead on its different forms and its moral implications. But it is important to define this notion properly to understand what speciesism is and what it entails from a moral perspective. Oscar Horta, one of the few authors to offer a well-developed account of speciesism, defines it as "the unjustified disadvantageous consideration or treatment of those who are not classified as belonging to one or more particular species" (Horta 2010: 244). That is, we are not only speciesist if we deem some interest X of humans more important than the very same interest X of animals. We also act in a speciesist way if we treat some animal species much better than others for an arbitrary reason. For example, it is speciesist to accord greater protection to elephants and pandas than to pigs and chickens simply because we find the former more "majestic" or cuter than the latter.

According to Horta's account, to defend a speciesist attitude is always and necessarily a morally problematic position, as the word "unjustified" in his definition suggests. Horta provides a formal framework for understanding speciesism, but he does not show in detail exactly *why* it is morally reprehensible. The reason is the following: speciesism is wrong because it discriminates on the basis of a purely biological property, namely, species-membership (Jaquet 2020). That is, speciesism falsely begins from the assumption that a purely biological criterion—namely, species-membership—is morally relevant. And as a consequence of speciesist discrimination, animals are frequently denied what they are due. But what does non-speciesist consideration imply, in practice? As outlined above, speciesism entails "an unjustified disadvantageous consideration or treatment" (Horta 2010: 244). Conversely, for a non-speciesist treatment of animals, one would have to consider their interests in a *non-disadvantageous way*—on a par with relevantly similar human interests. Treating animals fairly means that equal or relevantly similar interests—be they held by humans or animals—ought to be considered alike. This is called the *principle of equality*, or the *principle of equal consideration of interests* (Singer 2011: 20). According to this principle, the same consideration should be given to equal amounts of pain or suffering experienced by animals and by humans, other things being equal. David DeGrazia formulates this principle as follows: "If A judges that interest X of a being B has moral weight W, A must judge that (relevantly similar) interest X of beings relevantly similar to B has W" (DeGrazia 1993: 19). By applying this principle, and considering pain and suffering of equal intensity as equally bad wherever they occur, moral agents avoid discriminating based on species-membership.

One may wonder here whether similar interests must *always* be considered similarly: do we not sometimes have relationships that allow us to circumvent this principle and give priority to those close to us? If an accident occurs, for example, I may be allowed to ease the pain of my daughter before, or instead of, the same pain with the same intensity in another child or an animal with whom I have no relationship. This is not because there is a difference in the importance of said pain; rather, I value (probably rightly) my personal relationships more and am thus allowed (or in some situations, maybe even morally required) to give priority to those close to me, due to special relationships, resulting in special duties.

Importantly, equal consideration of interests does not entail equal *treatment*, but rather equal *consideration* of relevantly similar interests. In

practice, this may result in different treatment, depending on the being whose interests at are stake (Singer 2009: 2). After all, equally considering a pig's interest in well-being with a human's interest in well-being will doubtless result in very different treatments: we may have to provide the pig with entertainment possibilities and mud areas, while humans have interests that pigs lack, such as access to education or the liberty to marry whomever they wish.

The question, though, is whether animal and human interests can in fact be compared. One may argue that humans' complex mental life renders the very same amount of pain worse for them than for animals: humans can reflect upon the pain, develop anxieties ("It will never end!") and thus suffer more from it than animals do. On the other hand, most animals lack the knowledge that their pain or suffering might stop at a certain moment in time (e.g., thanks to the administration of pain-relieving medication)—a state of uncertainty which might increase their psychological suffering overall. Furthermore, humans can compare their pain to previous forms of suffering ("It is not so bad after all, I have experienced worse!") and distract themselves from the pain by focusing on something else. Mental capacities to reflect upon suffering thus do not necessarily influence the severity of suffering; instead, the severity of suffering very much depends on the situation and the individual in question. Nonetheless, we can imagine forms of pain and distress which *feel* equally bad for both humans and animals. In Chaps. 5, 6, and 7, I will spell out the importance of various interests of animals in different contexts—agricultural settings, research laboratories, and in the wild—as well as their respective weights, and I will outline what these considerations mean in practice for our treatment of animals and our interactions with them.

To summarize, the basic interests of sentient animals matter for their own sake: sentient animals can fare better or worse, and they care about how their life goes. Furthermore, moral agents have *direct* duties toward animals: they owe it directly to animals to take their most fundamental interests into account. Moreover, animals' interests should be considered in accordance with the principle of equal consideration by those holding power over the satisfaction or dissatisfaction of these interests. The basic interests of animals outlined at the beginning of this chapter thus have the status of *legitimate claims*.

4.4 The Claims of Animals

So far, I have established that sentient animals fulfill the conditions for vulnerability ascriptions I outlined in Chap. 3. I have shown that sentient animals have welfare and sometimes even agency interests that could be thwarted. I have defended the views that these animals matter morally for their own sake and that moral agents owe them direct duties of consideration. I argued against speciesism and in favor of the *principle of equal consideration*, which requires that like interests be considered alike, regardless of who holds them. Accordingly, one of the most important duties of moral agents is to fairly consider the interests of vulnerable animals—that is, animals who fulfill the conditions for vulnerability ascriptions.

Therefore, I infer that the six basic interests of animals are not solely interests, but rather have the status of *legitimate claims*, provided a moral agent can be identified who has power over satisfying or denying them. Consequently, moral agents have a *duty* to take animals' legitimate claims into consideration by fairly applying the *principle of equal consideration* and counting like interests alike. These deliberations lead us to the following list of basic claims of animals:

1. Claim to the absence of hunger and thirst
2. Claim to the absence of suffering (absence of pain, injury, and disease)
3. Claim to express and pursue normal behavior
4. Claim to the absence of discomfort, fear, and distress
5. Claim to lead a self-determined life
6. Claim to continued existence

Note that these claims are not necessarily absolute and need not be satisfied in all cases. In some circumstances, they could be outweighed by more important claims. In other words, the claims listed here are *pro tanto* claims.

In the following chapters, I examine the situations in which these legitimate claims can be trumped by more important ones. In discussing how my account of vulnerability should be applied, I will address the following questions: are some groups of animals *particularly* vulnerable in some situations and contexts? Are some—or even all—animal species particularly vulnerable groups? In this vein, I will take a closer look at animals used and killed for food, animal experimentation, and the duties moral agents owe to wild animals.

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CHAPTER 5

Animals Used as a Source of Food

The demand for animal products is massive, and it is growing. According to the Food and Agricultural Organisation (FAO) of the United Nations (UN), human beings collectively used over 22 billion chickens, nearly 1.5 billion cattle, and 1.2 billion sheep in 2017 (Food and Agriculture Organization of the United Nations FAO 2019). The most consumed meat type is pork. The production of milk and eggs has also increased in recent years: 843 million tons of milk and 77 million tons of eggs were produced in 2018. In both cases, this amounts to almost a 50% increase compared to the 2000 level (Food and Agriculture Organization of the United Nations FAO 2020). As for fish, production increased to 173 million tons in 2017, including both capture fisheries and aquaculture (Food and Agriculture Organization of the United Nations FAO 2019).

In what follows, I discuss whether these uses of sentient nonhuman animals for food are morally justified, or whether these animals should instead be regarded as a particularly vulnerable group in need of greater protection. I inquire into which uses of animals for food are morally justified, and which amount to unjustified harm or moral wrongs. In a first step, I discuss the production of meat, milk, and eggs, where animals' basic claims are disregarded. To make my argument, I compare different scenarios. The first concerns the conflict between humans' claim to eat meat and animals' legitimate claims, notably to not be subjected to unnecessary suffering. Can we justify eating animal products in cases where the production entails considerable suffering, pain, and distress? This issue

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encompasses meat from factory farming, eggs from over-bred hens, and the milk of mistreated cows, among others. I argue that the consumption of animal products involving harm can only be justified if more important human interests—notably, humans' basic claim to survival—trump the animals' basic claims. While this condition is rarely met in Western societies, it may obtain during humanitarian catastrophes, or in situations where no healthy plant-based alternatives are available.

Second, I discuss the case of so-called humane farming—that is, painlessly producing animal products: would we be allowed to painlessly kill animals if they had previously lived an unharmed, happy, fulfilled life? Which claim should be given priority: our claim to eat or the animal's claim to continued existence? I argue that depriving animals of their life—the prerequisite for good and fulfilling experiences—cannot be justified if there are healthy plant-based alternatives available.

Third, I turn to the question of whether all uses of animals are morally problematic and if animals should therefore be considered particularly vulnerable. I discuss whether we are allowed to use secondary animal products such as eggs and milk if their production does not involve any distress, suffering, and pain; that is, I consider whether we are allowed to use animals whose legitimate claims are respected. In this connection, I argue against *principled veganism*—the view according to which all uses of animal products are necessarily ethically problematic. According to the account I defend here, we are indeed allowed to consume and use animal products that do not involve any suffering, pain, distress, or death. Not all uses of animals are ethically problematic, and not all animals used for human food should be regarded as particularly vulnerable; rather, these determinations depend on the context of use and the specifics of the situation. Furthermore, I show that dependency *per se* does not necessarily result in increased vulnerability.

I conclude that many animals used for the consumption of food can in many—but not all—cases be described as belonging to a particularly vulnerable group. These particularly vulnerable animals are more likely to have their legitimate claims unjustly considered (compared to other human and animal groups, as I will describe below). Therefore, they should benefit from more public attention and receive additional protective measures. In the conclusion to this chapter, I argue that we must raise protection standards for animals used in the food industry. Furthermore, I propose developing psychological interventions combatting speciesist prejudices against animals in society.

5.1 Eating Harmfully Produced Animal Products[1]

In the previous chapter, I established that sentient animals have legitimate claims: *negative* claims to the absence of hunger and thirst, to the absence of suffering, to the absence of discomfort, fear, and distress; along with *positive* claims to the pursuit of species-typical behavior, to a self-determined life, and to continued existence. At the same time, humans have a claim to feed themselves. There is thus an apparent conflict between, on the one hand, animals' basic claims and, on the other, humans' claim to eat animals and their products. Can we justify eating animal products in situations where their production involves disregarding animals' most basic claims?

This question concerns not only meat, but also eggs and milk. Dairy cows are often over-bred and frequently suffer from diseases such as mastitis and lameness. Furthermore, many farming practices restrict animals' claims to a self-determined life and species-typical behavior, as animals are not given sufficient opportunities to move freely or to choose the food they want to eat (as they would do on pasture land, for example). Furthermore, many closed stables lack entertainment opportunities for animals, such as for play. Chickens frequently live in dense conditions without the kinds of social bonds and hierarchies they would naturally maintain. They are bred to lay as many eggs as possible—up to 300 per year—which takes a heavy toll on their health. And when these animals are no longer economically productive, they are slaughtered—many years before the end of their natural life expectancy.

Furthermore, losses of opportunities can also negatively affect animals. In Chap. 3, I defined harm as: (1) to be made worse off than one was before or could have been (which amounts to "harm by deprivation"); or (2) to be adversely affected, physically or mentally (examples include permanent hunger, distress, coercion, or a permanent state of anxiety). In other words, individuals are hindered in satisfying their welfare and agency interests when they are impeded in achieving some potential welfare state that they previously did not have—but *could and should have had*. An example is the case of confined animals who have lived since birth without sufficient possibilities to move freely or to pursue other species-typical behaviors, such as choosing the food they wish to eat or the animals they

[1] Parts of this Chapter are based on Martin (2021).

wish to interact with. They suffer harms through deprivation—that is, the loss of opportunities to satisfy their interests.

Finally, animals used for food production also incur indirect, less visible forms of harm. Both calves and dairy cows, for example, experience acute distress due to their separation shortly after the calf is born. They both show increased stress hormone levels after separation and show behavioral signs of stress (see, e.g., Pérez et al. 2017; Orihuela and Galina 2019; Beaver et al. 2019). In addition, industrial egg production relies on "chick sexing." This practice is used to separate male and female chicks on the first day of their life. Since the males cannot lay eggs, they are useless to the egg industry. Furthermore, they cannot be used for chicken meat since they put on too little weight, too slowly, which is economically unattractive. The male chicks are therefore separated from the female chicks and killed (usually gassed) on the first day of their life. Every year, all over the globe, millions of male chicks are thus summarily killed. Many countries strive to find alternatives to this practice. Research is currently being conducted to predict chicks' sex while they are still in the egg (see, e.g., Galli et al. 2018), and thus to select only eggs containing female chicks. To date, these practices have rarely been used, however.

The suffering of fish is particularly hidden. In numbers, fish are probably the most consumed group of animals on the planet. Contrary to most mammals, however, they are not seen as individuals, but rather as non-sentient organisms—tellingly, they are counted in "tons" fished, not "individuals" killed. Fish are harvested from the sea in vast yet unknown numbers by the global fishing industry. Different practices are used to capture them, such as trawling or gillnetting. Many animals are physically injured by these methods and eventually asphyxiate. If they are still alive when caught, they suffocate on the boat or are gutted alive (Gregory 2003; Hessler et al. 2017).

Furthermore, every year over 80 million tons of fish are bred in intensive aquaculture, where they commonly live in dense conditions. High rearing density negatively affects the health, behavior, and welfare of the fish concerned (Ellison et al. 2020; Long et al. 2019). Husbandry-related stress, such as tank cleaning and variation of water temperature, increases stress hormones in some fish species and makes them more prone to diseases and earlier death (Varsamos et al. 2006). Aquaculture fish commonly have to be transported on land, by sea or even in the air for various purposes (such as bringing them to the killing station); transporting fish can induce stress responses that negatively affect them over a prolonged period

of time (Villa et al. 2009). Lastly, many slaughter methods are suboptimal because they do not render the fish unconscious before killing them, despite the availability of less stressful methods (van de Vis et al. 2003; Lines and Spence 2014).

As outlined earlier, animals have *pro tanto* claims to bodily integrity and to the absence of pain, distress, and suffering, among other things. At the same time, humans have a claim to eat. There is thus a conflict between humans' claims and animals' claims. Can we justify eating animal products *if their production involves considerable harm*? Is it morally justified to discount animals' interests in bodily integrity, in leading a self-determined life, in the avoidance of distress and suffering and continued existence? Or does this discounting constitute *unjustified harm*? Should the animals involved in harmful food production be considered a particularly vulnerable group?

In order to answer these questions, the strength of these claims must be determined, and it must be ensured that all claims at stake are weighed in a fair and unbiased way. All these claims—animals' claims to the absence of distress, pain and suffering, and so on, and humans' claim to eat—appear, at first sight, to be fundamental. However, it is necessary to look a bit closer at the claim to eat. To be sure, eating is a vital claim: without an appropriate amount and quality of food, humans are condemned to die. The more relevant question, though, is whether humans have a claim *to eat sentient animals and their products* (such as milk, eggs, and meat) if their production involves harm.

Two scenarios can be distinguished. First, there is the scenario in which humans have to eat harmfully produced animal products in order to survive and guarantee their basic health. Examples may include geographical regions where plants cannot readily grow (such as the Arctic or some deserts) or where plant-based proteins are not diverse enough to maintain health.[2] Further examples are situations immediately following catastrophes (such as natural disasters or wars), where basic human survival is at stake yet there are no plant-based alternatives to animal products available. People in this first scenario basically have no other choice than to eat animal products in order to survive and maintain their health. In this context,

[2] To be sure, some of these issues can be resolved by the importation of plant-based foods. Therefore, in many cases, the ethical issue at stake is not non-availability of plant-based options, but rather the interest of the local community to continue pursuing a traditional lifestyle.

eating animal products is a *vital* claim of humans. Animals' claim not to suffer, on the other hand, can be considered fundamental, but not as vital. Thus, if animal suffering is weighed against human survival, it seems reasonable to conclude that the harm animals incur when their products are used is morally legitimate (although this harm should be kept to a minimum).

But what about killing animals, in this scenario? The same type of claim seems to be at stake—namely, the claim of both humans and animals to continued existence. But does this claim have the same strength for both groups? The answer depends on whether death is a greater harm by deprivation to humans than to animals. As I argued in Chap. 4, the badness of death has two components: first, death forecloses future opportunities for well-being and for the fulfillment of one's plans, aims, and goals; second, the more one is connected with, or invested in, one's future life and one's life plans, the worse death is. This implies that some beings have a stronger interest in continued existence, and therefore a stronger claim to it. That is, psychological continuity with one's future life adds additional weight in the context of the moral consideration process. Furthermore, death has a negative impact on those surviving the deceased individual, which must also be taken into account (for both humans and animals).

These considerations help us to answer the question of whether we may *kill* animals for their meat, in the first scenario. Presumably, most humans are more psychologically tied to their future than are most animals. Indeed, we have a much wider range of welfare and agency interests that may be frustrated by death. For example, most humans can anticipate their own future many decades ahead, and have related goals they wish to achieve. Furthermore, most humans have more social bonds than do animals, and their death therefore tends to grieve more individuals than does the death of an animal. In sum, more is at stake for most humans, compared with animals, when they die. Therefore, in the first scenario, it may be morally permissible to eat animals and their products. Indeed, it is not an unfair consideration to kill or use animals if human survival and human health is at stake, and if there is no possibility of importing or producing plant-based alternatives. While animals are generally vulnerable in the first scenario, they cannot be considered *particularly vulnerable*.

The second scenario concerns humans who have a choice about what they eat. They have no difficulty in finding nutritious and healthy plant-based alternatives to harmfully produced animal products. This is probably the case today for most Western societies, where there is an abundant

supply of plant proteins and supplements (such as vitamin B12). Eating animals is thus a *replaceable claim* in this case. While one has a claim to eat *something*, one does not have a claim *to eat sentient animals,* even if one has a strong preference for its taste. The human interest in eating meat, milk, or eggs is not a welfare interest, but rather a mere (gustative) preference. On the other hand, animals do have genuine welfare interests: in bodily integrity, in being free from distress and suffering, and in leading a self-determined life allowing them to explore species-typical behaviors. These interests are fundamental and have the status of valid and legitimate claims with corresponding duties—which outweigh humans' replaceable preference to eat animal products when nutritious plant-based alternatives are readily available. Giving priority to the replaceable preferences of humans over the more fundamental claims of animals would therefore violate the view (outlined previously) that morally protected interests—that is, claims—trump mere preferences. That is, to prioritize humans' mere gustative pleasure, in this case, would amount to an unjust disregard of animals' interests.

Hence, in the second scenario, humans do have a *claim to eat*, but only a *preference for* or *interest in eating animals.* Humans can choose what they eat, and they do not necessarily have to eat animals and their products in order to flourish and lead a satisfactory life, even if they may have a preference for animal products over plant-based alternatives. After all, humans are not *harmed* if they refrain from consuming meat, eggs, and dairy. As explained earlier, not all negative effects on someone represent harm: if one's favorite football team loses a match or a gourmet is served a boring dish, these undesirable outcomes do not constitute a harm or even a wrong. Although such experiences may annoy, distress, or irritate us, they do affect us in way that is properly harmful (Feinberg 1984: 43).

Many animals suffer during the production of milk, eggs, and meat: they are deprived of living the life they would want to live; they are frequently impeded in their pursuit species-typical behaviors; they lose their social bonds; and they often experience pain, distress, and suffering. Moreover, this suffering is often hidden from consumers: despite their huge numbers, we seldom see the animals used for food production, and rarely observe how they are slaughtered. As shown above, such suffering and distress cannot be justified in many cases—provided one weighs the interests at stake *fairly and impartially.* That is, while the animals in both scenarios can be considered generally vulnerable, only the animals in the second scenario can be considered *particularly vulnerable.* Indeed, they

are at an increased risk (compared with other human and animal groups, such as companion animals) of having their interests considered unjustly. Consequently, they have a claim to special protection and to additional attention. I will outline what this entails in the last section of this chapter. But before I turn to that, I wish to discuss another point: what if it were possible to raise animals humanely? Would we be allowed to kill animals who have led a happy life, insofar as their basic claims will have all been satisfied?

5.2 Killing "Happy Animals" for Food

In the previous section, I argued that in situations where healthy and nutritious plant-based alternatives are available, we should refrain from eating products derived from animals whose basic claims were illegitimately disregarded. However, nothing has been said so far about *painlessly killing* animals who have led a happy, satisfactory, species-typical life. Imagine that we managed to satisfy all the animals' basic claims I previously outlined. An example might be cattle living a peaceful and protected life on pasture land or on an alp. They can freely choose where they want to go (within some limits), with which conspecifics they interact (supposing that their family bonds remain intact and that the calves are not separated from their mother), and what plants they eat at which time of the day. Or imagine free-roaming chickens living in a backyard or on a small farm, who are largely free to choose how they lead their life. This model has been called "humane farming" (Smolkin 2021). The question I want to address in this section is the following: is it morally permissible to painlessly kill animals who lead a happy life in order to produce meat in situations in which nutritious plant-based alternatives are available?[3]

In order to answer this question, it is helpful to distinguish the different claims at stake, notably animals' claim to continued existence versus the humans' claim to eat. We have to determine the strength of each of these claims. Does the painless killing of animals for food production amount to justified harm, wrongful harm, or a mere wrong? Or do these categories

[3] Much has been written on this topic; see, for example, Višak (2013); Višak and Garner (2016); Fischer (2020). Unfortunately, I cannot provide a detailed overview of all the debates about "killing happy animals." Rather, I discuss what my own account has to offer toward answering this question.

not apply to animals at all, assuming death is neither good nor bad for them?

For animals, continued existence is a vital claim—without their life, they are deprived of everything that matters to them: possibilities for pleasure satisfaction, raising a family of their own and maintaining relationships with other animals, fulfilling their interests and needs, and the like. At the same time, I argued before that the moral badness of killing a being depends on how much this being is connected to its future. Indeed, if only the quantity of lost lifetime mattered, then we would have to deem the death of a fetus or new-born worse than the death of a ten-year-old—which is counterintuitive (McMahan 2002: 192). The badness of death is thus determined not only by the lifetime one loses (death being the ultimate deprivation of everything that matters to oneself), but also by how much one is psychologically tied and connected to one's future. The more one has formed plans and anticipations for the future, the more one loses from a premature death.

In animals, psychological continuity and connectedness to future events varies (as in humans at different stages of their life) (Selter 2020). These are quite strong in the case of great apes and corvids, and less strong in other animals. However, even if some animals are less connected to their future than others, their death is still an unjustified harm by deprivation; after all, it irreversibly deprives them of all future experiences. This implies that unnecessarily killing animals who are leading a good life is morally problematic, as it frustrates their claim to continued existence.

But does this claim to continued existence have less moral weight than human's interest in eating animals? A negative answer is plausible, for two reasons. First, as previously indicated, our interest in eating meat is not a claim, but merely a gustative preference in situations in which there are plant-based alternatives—which is the case in most Western societies. Animals' interest in continued existence, by contrast, does have the status of a legitimate claim, which must accordingly be considered in a fair and impartial way during moral decision-making.

Second, if one compares the pleasure derived from eating meat with the consequences of an animal's death, it is hard to see how the former can outweigh the latter. Death is irreversible. In the case of *not* eating meat, all that is at stake is the frustration of a short, replaceable pleasure satisfaction. It is unclear how an interest of short duration and medium intensity can trump animals' claim to continued existence, which deprives them of

all future possibilities to satisfy their needs and desires. To be even more precise, we do not have to compare the *loss of gustative pleasure* with the loss animals incur; rather, we have to compare "the difference in the loss of pleasure people receive from eating the animal minus what they could receive from eating some nonmeat alternative" (Smolkin 2021: 253). If we compare this marginal loss to what animals lose, it becomes even harder to argue in favor of the view that the humans' preference to eat meat trumps the animals' claim to continued existence.

One might object that individuals who refrain from eating meat do not change anything: after all, only few animals will be saved. This line of reasoning is not convincing, however. The *duty* remains, even if one does not, in fact, have a huge impact on the practice of meat-eating on one's own, and even if the effect of one's action depends on similar actions by many others.[4] Nonetheless, meat-eaters could contend that they are not directly killing the happy animals in question. They could argue that the actions by farmers or slaughterhouse workers are the ones that are morally problematic, not those of meat-eaters. That is, they are not the ones who directly harm the animal—slaughterhouse worker and producers are those who wrong the animals in question. This argument fails to convince, however: paying someone (even indirectly) to commit immoral acts or creating demand for morally problematic products can be deemed just as morally problematic. Even if one is not directly involved in the killing of the animals to be eaten, one is nevertheless complicit in a moral wrong—namely, not giving due consideration to animals' claim to continued existence. Purchasing meat from humanely farmed animals helps to perpetuate speciesist beliefs in society, notably that humanely raised animals are the kind of beings we are allowed to eat, and that their lives do not matter *per se*.

One might further argue that eating meat is a fundamental freedom: humans should have a choice about how they lead their lives, including what we eat. Does thus the human interest in free food choice trump animals' claim in continued existence? Requiring vegetarianism or even veganism, so the argument continues, would infringe upon humans' claim to lead a self-determined life. However, it is important to remember that we do not have the freedom to do *anything* we want. Our freedom is sometimes legitimately restricted, as we should not gratuitously and needlessly

[4] I cannot deal in detail with the vast literature on causal impotence or inefficiency—the view that no single act (such as refraining from eating meat) directly reduces animal suffering. For an overview and discussion of such arguments, see Fischer (2020).

inflict harm on others. Or our claim to free speech, for example, can be legitimately restricted: we are not allowed to publically libel someone, for example, by falsely accusing them of being a Nazi or a sexist. We regard these restrictions as valid, insofar as we are morally obliged to respect others and to take their interests into account. And the same applies to the case of eating happy animals: we do not simply enjoy an unfettered freedom to eat as we please; if our consumption directly or indirectly harms other sentient beings, then this freedom can be restricted. Hence, giving blanket priority to humans' interest in eating meat over animals' claim to continued existence represents an illegitimate discounting of the latter. Indeed, it would be speciesist to prioritize humans' trivial interests over animals' legitimate claims.

One might further object that it is problematic to simply oppose animals' claim to continued existence to humans' claim to eat meat. Rather, one should see the whole picture. It is not only humans' comparatively trivial and replaceable interest in eating meat that is at stake; rather, one also has to take humans' interests in the meat production industry into consideration. There are many people who financially depend on the meat industry and related retailers, such as farmers, slaughterhouse workers, and butchers. They have a claim to work, to have an income to feed and support their families, and they should be free to choose the sector in which they wish to work. If one takes this broader economic perspective into account, so a potential argument goes, animals' claim to continued existence is no stronger than the accumulated interests and claims of all the people who depend on the meat industry.

To be sure, one could argue that my account faces this problem insofar as I do not explicitly postulate the inviolability of some claims. Rather, I speak of *pro tanto* claims which have to be justly weighed and evaluated against other claims. The question is now whether the many small and replaceable interests of many humans (such as the interests in eating meat, financial dependency on the meat industry, etc.) outweigh one vital claim of animals, namely the claim to continued existence.

A first step in responding to this objection is to assess whether the described accumulation of claims provides an adequate picture of the situation. To my eyes, it does not: it is not the case that many replaceable claims are confronted with just one vital claim; rather, many replaceable claims are confronted with *many* vital and fundamental claims, namely the number of animals killed and the suffering caused by farming. It is difficult to imagine that many replaceable interests—for example, owning a farm

that raises animals for meat—should outweigh these many vital and fundamental interests.

Furthermore, the interest in eating meat and in raising animals for food is not a claim, but merely a preference without any correlated duties. Nobody has a *claim to work in a slaughterhouse*, nor do farmers have a *claim* that people buy their products. Rather, one has merely *a claim to work*. As a consequence, if my argument is valid, individuals working in the meat industry would have to find jobs in other sectors, and farmers raising cattle or pigs for their meat would have to find an alternative way of earning a living. That is, there are limits to the pursuit of profit or employment, assuming there are other ways to feed a population which do not require the killing of animals.

This does not imply that these individuals should be simply left to fend for themselves. In the field of sustainability, the term "Just Transition" has been coined to denote the need for social interventions to secure workers' livelihoods as economies become environmentally friendlier and more climate-neutral. Basically, individual workers in previously important industries (such as coal mines) should not be alone in carrying the burden of reorienting their careers; rather, they should be supported by society. Just Transition demands investments in more sustainable jobs, income protection, and adequate funding while economies and societies shift toward more sustainable ways of production (International Labour Organization 2013; International Trade Union Confederation 2015). This idea can also be extended to animal agriculture. Charlotte Blattner (Blattner 2020) has argued that Just Transition should also be deployed in agricultural sectors, insofar as they contribute substantially to climate change. However, if my arguments presented here are sound, we also have ethical reasons—linked to *animal welfare*—to help farmers and slaughterhouse workers reorient their careers toward options which do not involve harming animals.

To summarize the last two sections, my arguments call for vegetarianism (or even veganism, if products such as milk and eggs cannot be produced in a non-harmful way), except in situations of dire need in which no healthy plant-based alternatives to meat are available. Producing or consuming products that involve killing animals cannot be regarded as instances of justified harm. The claims of the animals used for food production are frequently unjustly considered, and should thus be afforded more attention and protection by society. I will

elaborate on what this means in the last section of this chapter. But first, I will discuss whether there would be an ethical problem with consuming animal products, such as milk and eggs, if they could be produced *without* any suffering and death.

5.3 Consuming Harmlessly Produced Animal Products

What if we respected all of animals' basic claims—would we then be allowed to consume animal products such as dairy and eggs? Or are all uses of animals for humans' benefit intrinsically problematic? In this book, I have distinguished between different manifestations of vulnerability: unpreventable or justified harm; unjustified wrongful harm; and harmless wrongs. In the following, I consider *whether we can wrong animals without harming them*. First, I discuss whether we are we allowed to use harmlessly produced animal products, such as milk and eggs, or whether consuming eggs and dairy is necessarily exploitative and morally problematic insofar as it wrongs the animals concerned. Second, I examine whether there is a link between vulnerability and dependency. That is, does dependency necessarily entail vulnerability, or can they be independent? I argue that dependency does not necessarily result in increased vulnerability. Third, if we are not allowed to kill animals painlessly for eating their meat, does this result in the problematic consequence that we should not bring any animals into existence? What of the view that farm animals should not exist at all, to avoid their incurring potential harm in the future?

The first question I want to address concerns the use of animal products that presumably did not involve any harm, such as suffering and distress, during their production. In the last sections, I argued that we are not morally allowed to harm animals or cause them suffering for trivial purposes (such as for obtaining animal products when we have non-harmfully produced plant-based alternatives), and that we are not allowed to kill animals for food (unless there are no healthy alternatives and human survival and basic welfare are at stake). This argumentation results in the prescription of vegetarianism, except in rare circumstances. But what if we could produce milk and eggs in a non-harmful way that did not require animals' premature death? After all, it is conceivable to have a farm or sanctuary with animals who are well treated for their entire natural lifetime. Would we be allowed to use milk and eggs thus produced, or are all

uses of animals, even harmless ones, exploitative and thus ethically illegitimate?

Before I can answer this question, a few remarks are in order. Note that the production of animal products without any suffering and death is a mostly hypothetical scenario. Such products would come at such high costs that they would be unaffordable for most consumers. For example, as mentioned before, industrial egg production relies on the practice of chick sexing—the killing of male chicks who are useless to the egg industry. Since I argued that killing animals for food is morally problematic in cases where healthy and nutritious plant-based alternatives are available, my argument here makes a number of *assumptions*: that egg production would be possible without killing the males; that the hens would live under conditions ensuring that they would be free from harm, such as suffering and distress; that the hens would have enough space to move around and to pursue natural behaviors; and that the hens would not be killed once egg production declines, but would be able to continue living (in a sanctuary, for example). In short, I assume that they would be granted the basic claims I outlined in Chap. 4. Obviously, such ideal practices would entail very high costs for people who want to buy eggs.

Similar assumptions could be made for milk production. Dairy cows and other animals (such as dairy goats and sheep) would not be killed once their productivity declined, and all efforts would be taken to reduce suffering related to milk production. For example, only a reasonable quantity of milk would be produced, given that high quantities involve excessive breeding, painful milking techniques, and diseases like mastitis—all of which may negatively affect the animals' well-being (Oltenacu and Algers 2005; Siivonen et al. 2011; Hovinen and Pyörälä 2011; Fogsgaard et al. 2015; Petersson-Wolfe et al. 2018). Furthermore, since animals' suffering matters more than humans' trivial food preferences, lactating mother animals would not be separated from their calves after birth (as this results in considerable distress and suffering), and the male calves, who are a byproduct of the dairy industry, would not be killed. If one respected all these criteria, it would lead to a lower quantity of milk produced, to be sold at a correspondingly higher price.

This suggests that the production of harm-free milk and eggs is rather challenging, but for the sake of the argument, let us assume that it is possible. Or, to take a simpler case, let us imagine that someone saved hens from bad living conditions and let them live a good life, say in a private garden. The hens would continue to lay eggs, and the question arises

whether it would then be permissible to eat these eggs. Do we *wrong* the animals in such scenarios because we use them as a means for our ends, although we do not thereby harm them?

Gary Francione famously defends the view that any animal use is inherently problematic. The main obstacle to achieving the just treatment of animals, according to him, is their legal status as property: it allows their owners to dispose of the animals as they wish, permits the use of animals exclusively as means to human ends, and leads to animals' inappropriate instrumentalization and exploitation (Francione 1995). According to Francione, the legal-property status of animals entails that animals will always lose out when their interests are balanced against human interests. It implies that animals only have as much value as their owners attribute to them. "But because animal interests are treated in a completely instrumental manner, that is, because all animal interests may be sacrificed if animal owners decide that there is a benefit in doing so, the animal will virtually always be on the short end of the stick" (Francione 1996: 178). Thus, animals' status as property results in their being at humans' mercy.

In order to improve animals' situation and to enable a just consideration of their interests, Francione claims that their *inherent value* must be recognized. Their legal property status has to be abandoned, since it is at odds with animal rights and permits the use of animals merely as a means to humans' ends (Francione 1996). Francione therefore distinguishes between being treated as a means to an end and being treated *exclusively* as a means to an end. While the former is commonly accepted in the case of humans (e.g., we use the services of plumbers, taxi drivers, or lawyers), the latter is forbidden because it does not show appropriate respect for the inherent value of these individuals. Francione argues that our use of nonhuman animals extends far beyond what we would find acceptable for humans. Taken together, his arguments lead to a categorical and principled veganism—the position that we should categorically, and in principle, abolish all use of animal products because of their exploitative nature, regardless of the harm their use may actually cause.

Katherine Wayne, who presents a detailed critique of Francione's view in her article "Permissible Use and Interdependence: Against Principled Veganism" (Wayne 2013), recognizes (with a nod to Francione) the distinction between using someone as a means and using someone *exclusively* as a means. However, Wayne claims that even if one makes this distinction and applies it to the case of animals, an objection remains: removing the property status of animals should still allow for some permissible uses of

animals, just as some instrumental relations are permissible among humans (Wayne 2013). But Francione would likely reject this conclusion in the case of animals. He would object to a world in which we removed the property status of animals while potentially using them as means to our—human—ends. Indeed, Francione argues in favor of halting all breeding of domesticated animals: "We should care for those nonhumans whom we have caused to come into existence as our resources, but we should stop bringing domestic animals into existence because that practice simply creates false conflicts between humans and nonhumans and cannot be morally justified" (Francione 2008: 152). The ultimate goal for Francione is the non-existence of domesticated animals,[5] a position which seems to preclude the possibility of permissible uses, even if the property status of animals were abandoned.

Wayne infers from her critique that the real problem of interaction between humans and domesticated animals, for Francione, is not their property status *per se*, but rather their *dependency* on humans: they are continually at our mercy, and we could potentially do with them whatever we want, even if we may have benevolent attitudes. For Francione, relationships between humans and animals that are determined by companionship rather than by ownership are still morally problematic since there is the *possibility* that humans may abuse the animals' dependency.[6]

Wayne sees three options for Francione: first, he could accept a dichotomy between human dependency and animal dependency, whereby only the latter case entails the non-use principle. Such a view would be speciesist, however: it would require the complete removal of domesticated animals from human life, as humans are considered incapable of treating them fairly. By contrast, we would not accept such a consequence for human groups who were historically or currently are oppressed, marginalized, or dependent (Wayne 2013: 163–164). Second, Francione could argue that humans simply cannot be as dependent as animals are, and that they consequently cannot be exploited the same way. This view is rather implausible, since dependent humans could be, and sometimes are in fact, exploited. A third understanding of Francione's position would be to hold that, similarly to animals, dependent human beings should not participate

[5] See also, for example, Francione (2005) and Francione (2008: 164).

[6] Wayne does not explicitly mention the possibility of abuse entailed by dependency. Nonetheless, I think that what is at stake for Francione is the *possibility* of harm and wrongs, such as abuse, that may result from dependency.

in relationships with non-dependent human beings even if such relationships are beneficial to both sides.

To illustrate why this view is problematic, Wayne frames three thought experiments to illustrate the possibility of respecting dependent humans while simultaneously using them as a means or resource. She argues that regarding dependent human beings "as resources in *some* sense […] is a precondition for their participation within a mutually beneficial and cooperative relationship" (Wayne 2013: 164). Thus, there is not necessarily a contradiction between respecting a being and using it as a resource: these two stances are not mutually exclusive, from a moral point of view. And if this is true in the case of dependent humans, then the same should apply in the case of dependent animals:

> If it can be demonstrated of intra-human relationships and communities within which some party is both significantly dependent on other parties and simultaneously viewed as a resource that they are not clearly morally problematic and indeed may be morally desirable, we should be able to say the same thing for human-animal relationships and communities of a similar nature. (Wayne 2013: 164)

Wayne's three thought experiments are based on the same scenario: imagine yourself as the caretaker of a home for adults with cognitive disabilities. This position brings you great pleasure, and you put a lot of effort and heart into it. You provide the disabled adults with what they need—shelter, food, social and cognitive stimulation, and so on—and they enjoy living there. Without caretakers, they would lead rather miserable lives. You could leave any time if you wanted, but due to your character, would not do so until you found someone suitable to replace you.

In the first scenario, the mentally disabled adults are assigned tasks in the household. The tasks depend on the cognitive abilities and the preferences of each individual. If they do not wish to perform a task, they are not forced to do so, nor do they suffer any negative consequences for declining. Wayne does not regard these assignments as exploitative or disrespectful. If one regarded it as morally problematic, one would adhere to the view that the disabled adults' contributions are morally inappropriate. However, it is hard to see why this should be the case, since the scenario just described "depict[s] a mutually beneficial and respectful set of relationships that make up a cooperative household" (Wayne 2013: 165). If

using one another like this is permissible in the case of humans, it should be so under the same conditions in the case of animals.

One could argue that these mentally disabled adults should not participate in mutually beneficial activities since they are incapable of rationally judging whether these activities are in their best interest or not. However, such an argument commits one to a problematic view of the role of cognitively disabled adults in our society. Indeed, Wayne argues that excluding disabled people from reciprocal relationships is paternalistic and misguided. Furthermore, one must note that in this scenario, the disabled *wish* to participate in these mutually beneficial relationships. This is also conceivable in the case of animals, and so should not be regarded as necessarily morally problematic.

The second thought experiment concerns the consumption of animal products. In order to outline the problem of Francione's theory, Wayne presents the following thought experiment: imagine that the disabled adults draw a small amount of their blood on a daily basis. If they do not do this, their welfare will be negatively affected. Given that this activity entails little or no harm and they wish to pursue it, they are supported in this endeavor by their caretakers. Imagine, furthermore, that this blood is very nutritious and tasty and could be used to improve other humans' health, and that the disabled adults do not express any worries about the blood being taken away from them. Wayne argues that this scenario does not amount to exploitative behavior:

> It seems that we are not justified in condemning situations where something produced by a dependent party, at no cost and indeed significant benefit to themselves, is used by the caring party, unless there is something essentially wrong with expecting or even accepting contributions — from or of their bodies — provided by vulnerable, dependent beings receiving care. Given that the dependent parties in this instance are taken to create the product with no aversion to that product's consumption, we are again left with no clear moral reason to prohibit these actions, and in fact, might be wrong to prohibit them. (Wayne 2013: 167)

Applied to animals, we can infer that *harmlessly* produced animal products which do not involve killing the animals are not necessarily problematic from a moral point of view.

Wayne's last scenario involves selling the products of dependent parties. Imagine that the hair of these disabled humans grows (perhaps due some

genetic mutation) much faster than the hair of other humans. The caretakers often cut the hair of their care receivers, and sell it. This helps generate profits for the care home, which can be invested in ways that are beneficial for everyone living there. Wayne argues that such a scenario is not necessarily exploitative, given that the disabled adults do not incur any harm; on the contrary, the practice is in their long-term interest. If one deemed such a situation exploitative, one would deny that the contributions of the mentally disabled in society are desirable and legitimate.[7]

Principled and categorical veganism, as Francione conceives it, demands relationships between humans and animals that are exclusively unilateral: one provides; the other receives. However, as Wayne shows, dependency does not necessarily entail that we must refrain from using others if there is no harm implied—in the case of both humans and animals. The mere *possibility* that some dependent individuals may be overly used or exploited does not imply that *all* uses are unjustified.[8]

To sum up, dependency does not necessarily entail vulnerability: dependent beings are not necessarily at an increased risk of having their interests unjustly considered. They are thus not necessarily particularly vulnerable, and consequently not in all cases in need of special protection or additional

[7] A similar argument about permissible use is found in Donaldson and Kymlicka's *Zoopolis*: they claim that "use is not necessarily exploitative, and indeed refusal to use others – effectively to prevent them from contributing to the general social good – can itself be a form of denying them full citizenship" (Donaldson and Kymlicka 2011: 136).

[8] One may object here that using animals is wrong because it *may lead* to exploitative behaviors in the future that are harmful to animals. There are different versions of this slippery slope argument. The first is empirical: if indeed it is empirically proven that some restricted use of animals will lead to abuse, this has to be taken into account. But it does not imply that all uses must then be stopped. Other options, such as education and restrictive laws, are conceivable. For a discussion of the slippery slope argument regarding this issue, see Cochrane (2012: 88–89). The second form is logical. One may claim that the distinction between justified and non-justified use is not clear, and that one could start exploiting animals on this basis. However, such a fear is not legitimate—as argued before, there is a clear distinction between justified and unjustified uses of animals: as soon as it involves suffering, it becomes illegitimate. Finally, one could argue that using animals as a means or resource is morally problematic insofar as one takes advantage of past injustices animals incurred: animals were domesticated in the past for human purposes which was morally wrong; benefiting from such animals living today is therefore also wrong. However, such a claim is equally unwarranted. One would first have to show that forms of domestication that were mutually beneficial to both humans and animals thousands of years ago were morally wrong. Furthermore, the idea that *many* animals were and are unjustly treated does not logically entail the idea that the use of *other* animals in a situation without this injustice is morally problematic.

attention. Dependency may increase vulnerability in some situations (e.g., if the interests of a group of dependent individuals are comparatively more likely to be unjustly considered), but not necessarily so. Wayne's thought experiments illustrate this point well: in the scenarios described above, the caretakers duly take the interests and needs of their care receivers into account. The cognitively disabled thus do not run an increased risk of being denied what they are due. Therefore, one cannot say that they are particularly vulnerable individuals in need of special protection in this context, despite their dependency.

To be sure, there are many situations and contexts in which cognitively disabled individuals should be seen as particularly vulnerable and correspondingly receive more attention. Consider ableist societies in which, due to prejudices or mere ignorance about the capacities and interests of cognitively disabled individuals, the latter are not taken seriously and see their claims to inclusion, education, and the like unjustly dismissed. In this case, they are indeed particularly vulnerable—not necessarily because they are dependent on others, but because they suffer from the prejudices of their fellow humans and thus are more likely to incur wrongs such abuse and neglect.

To further illustrate this point, consider the following example: children are highly dependent on their parents for their well-being and survival. Yet this does not mean that they should qualify as a particularly vulnerable group in need of special protection and attention in all contexts in Western societies. After all, most parents treat their children as they should, that is, with the necessary care and love. Furthermore, many laws protect children (from violence, for example), and grant them a right to education. However, this was not always the case. The understanding of what children need and are due has evolved: while children likely were particularly vulnerable in the past (and still are in some societies and specific contexts, such as wars), they can no longer be plausibly considered a particularly vulnerable group in most societies nowadays, as their interests are thoroughly considered in decision-making. That being said, children in unfavorable settings (e.g., children of parents with a severe drug problem), may run an increased risk of not having their interests duly taken into account. This means that children dependent on their drug-addicted parents for their well-being may qualify as particularly vulnerable and should receive more protection from child protection services and the like. This example underlines the importance of understanding situational

vulnerability as highly dependent on the context, the time, and the specifics of a given group.

But let us come back to animals. Despite all these considerations, one might remain skeptical, and contend that any use of animals remains *exploitative*, even in cases in which there is no harm or in which the exploitation may even be *beneficial* to the animals. The question of whether some uses of animals are exploitative even if there is no harm involved is a difficult one. Much depends on the definition of "exploitation" one adopts. While there is controversy about what "exploitation" means and entails, it seems to basically consist in unfairly taking advantage of someone and thereby gaining some benefit.[9]

Beneficial forms of exploitation (in the case of humans) may occur, for example, when someone must pay an unjustifiably high price for pain killers and anti-inflammatory medication from another person because it is her only relief from unbearable pain. Another example is a scenario in which a prisoner's only option for receiving basic medical care for her disease or condition is to enroll in a high-risk medical research study. These cases are morally unjustified forms of exploitation, even though they are actually beneficial for the individuals involved.

Can harmless or even beneficial uses of animals be *exploitative*? I do not see why. If there is no suffering, distress, and pain involved, if the animal does not have any interest that is potentially thwarted, and if the animal is not exclusively regarded as the means to a human end which might have a negative impact on the animal's well-being, then it is unclear why the use of animals in such situations would qualify as exploitative.

Which uses of animals are legitimate, then? A conceivable scenario is the consumption of eggs laid by rescued chickens, who previously endured poor living conditions. Under such circumstances, it seems legitimate to consume or sell the eggs they continue to lay. Other examples are assigning well-treated guide dogs to blind people, or having animals visit schools for educational purposes or elderly homes for companionship.

Importantly, what I have presented here is not an argument in favor of *all* uses of animals, but only of some, and this, under carefully restricted conditions. As outlined above, current production methods of dairy and eggs frequently inflict suffering and premature death on the animals involved. All too often in these situations, animals are exclusively regarded

[9] For an overview of different conceptions of exploitation, see, for example, Wertheimer (1996); Sample (2003).

as means to an end—namely, profit. In order to make the products of industrial farms ethical, they must be produced without harm and premature death, and animals' basic claims must be respected.

However, there is a further worry with my argument. So far, I argued that many contemporary forms of animal use are morally problematic because they involve different forms of harm, such as suffering, distress, and premature death of the animals, but there seems to be a problem with this: if we abandoned these many forms of harmful animal use, then many animals would not come into existence at all. But this consequence, one might argue, is ultimately harmful to these animals insofar as they could not benefit from all the potential future satisfactions of their interests that come from being alive. In other words, the underlying assumption is that existence is always better than non-existence.

Here I defend the view that we do not have an obligation to bring beings into existence who will lead reasonably good lives (that is, lives that contain more pleasure than suffering overall), and that we are not wronging a being by not bringing them into existence. There are several reasons for this. First, the obligation to bring future beings with a decent quality of life into existence would result in counterintuitive consequences—namely, that we have to bring humans and animals into existence on many occasions in our life only because they are likely to lead worthwhile lives, which seems counterintuitive—at least for non-utilitarians.

Second, we do not wrong anyone by not bringing them into existence even though they might have led a good life. Non-existent beings have no claim to existence precisely because they are non-existent: there is no entity or individual waiting to come to Earth that can be *wronged* by not being brought into existence (Martin and Baertschi 2012). Non-existent beings do not possess any properties and thus do not possess any well-being at all (Herstein 2013). An existence with positive well-being cannot be compared to non-existence without any well-being at all. Thus, while the prospect of a miserable life is an argument against bringing someone into existence, the prospect of a potentially good life does not create an *obligation* to bring a being into existence.

Examples of justified cases of bringing animals into existence are sheep who will graze the grass in parks or companion animals who will lead reasonably good lives. As Sue Donaldson and Will Kymlicka note: "Humans may bring dogs into their lives for pleasure (and company, love, and inspiration), but this is compatible with dogs existing in and for themselves (as it is in the case of humans)" (Donaldson and Kymlicka 2011: 135).

Morally problematic cases, on the other hand, involve bringing animals into existence who will lead lives containing more suffering than pleasure, for example, because it is foreseeable that they will be confined to small cages where they cannot pursue species-typical behavior, or that they will likely suffer and die an early death. These are cases in which the interests of the future animals do not play any role in the consideration of whether they should be brought into existence or not; these are rare cases where animals are *wronged* without being directly harmed.

5.4 Animals Used for Food as a Particularly Vulnerable Group

Many animals suffer in factory farming and livestock production. As shown, such suffering cannot be justified in many cases, provided one weighs the interests at stake *fairly*. That is, animals used as resources for food—when healthy plant-based alternatives are available—can be considered *particularly vulnerable* insofar as they commonly run a higher risk of having their interests unjustly considered. But what exactly is meant by "comparatively higher risk"? Compared to whom?

The relevant baselines of comparison are human groups as well as other animal groups. In many countries, due to speciesist attitudes, we treat animals in a way that would be obviously reprehensible if done to humans. To this end, Siobhan O'Sullivan coined the term "external inconsistencies," that is, inconsistencies between the ways animals are treated compared to *humans* (O'Sullivan 2012: 5). Moreover, there are also *internal* inconsistencies: different groups of animals are treated differently than *other animals* (O'Sullivan 2012: 5). Indeed, the laws of many countries protect different groups of animals to varying degrees. For O'Sullivan, these inconsistencies are often correlated with the varying degrees of visibility of different animals in the public sphere: the less visible the animal is, the less legal protection it enjoys (with a few exceptions).

This point is particularly striking in the case of animals used for food: we rarely see them in our everyday life—a fact which, according to O'Sullivan, has a marked influence on how much they are protected from a legal point of view. For example, while we usually refrain from, or are even sometimes forbidden to kill companion animals (such as cats and dogs) for trivial purposes, the same restriction often does not apply to animals used for food production (such as pigs and cows).

The legal protection is particularly low for fish: the general public is often unaware of how farmed fish are bred and raised, and many methods used for killing them are morally problematic, since they do not consider the fish's welfare sufficiently—if at all—during harvesting. For example, traditional farming methods may continue to cause great suffering to the animals concerned, despite less harmful alternatives' being available (Lines and Spence 2012, 2014). Even the living conditions and killing methods of cattle, for example, receive more public attention than those of farmed fish, with very negative effects for fish. There are numerous moral issues with commercial fishing, as it causes the fish to die not only prematurely, but often painfully as well. Furthermore, incidental captures of other mammals during the fishing process negatively affects their welfare and often costs them their lives. As (Dolman and Brakes 2018: 1) note, "[c]ommercial fishing is the last human activity targeting wildlife (fish) on a grand scale where slaughter includes incidental killing of other large sapient wildlife on such a regular basis." However, fishing practices leading to many animals' suffering and premature death often remain overlooked, ignored, and largely unregulated.

Consequently, some groups of animals are comparatively more vulnerable in certain contexts because they lack the legal protection and public interest enjoyed by other animals and humans. This also shows that, similar to the case of humans, we should not classify all animals *per se* as particularly vulnerable. Rather, we need to specify which groups of animals are particularly vulnerable, and identify in which contexts and situations. Whether some group of animals qualifies as particularly vulnerable, thus, very much depends on the specific situation they find themselves in. The very same animal species can be particularly vulnerable in one country, but not in another, depending on the varying legal protections in each country. For example, cows are exploited for their meat in Western countries, but regarded as sacred and consequently protected in Hindu culture. Another example are dogs: they are rarely used for food and often live a good life as companion animals in many Western societies, but they are used for their meat in some Asian regions. Finally, fish can, in many contexts, be deemed even more vulnerable than other sentient animals used for meat production, as their living conditions in aquaculture and the slaughtering methods are often barely regulated or up to the newest standards. From a moral perspective, fish are frequently at a high risk of not being given what they are due.

In this chapter, I have argued that animals killed for their meat and used for milk and egg production involving suffering qualify as particularly vulnerable in contexts where healthy plant-based alternatives are available. The animals concerned should, as a consequence, be afforded special protections and additional attention. But how can this be done? How can we reduce their vulnerability to an acceptable level? In what follows, I sketch some ways forward and outline why it is beneficial to describe these animals as "particularly vulnerable."

O'Sullivan (2012: 161) suggests, as a first step, that the protection standard of less visible animals—such as animals used for the production of food—be raised to the same standard of more visible animals (such as companion animals). Put another way, the protection of highly visible animals should be regarded *prima facie* as the benchmark for the correct treatment of sentient animals, before external inconsistencies can be addressed. I suggest that this may be done by increasing the public visibility of animals used for the harmful production of animal products. By turning the general public's attention toward animals unjustifiably used for food production, we may alter what people know and think about them. For example, through campaigns about the sentience and capacities of fish, consumers may change their attitudes toward these animals. Furthermore, by learning more about the harmful production processes behind meat, eggs, and milk, along with the often deplorable living situation of these animals, consumers may realize that they are partaking in serious wrongdoing. Hence, individual consumers may realize that they have some basic duty: when deciding what to eat, they ought to assess whether there are healthy plant-based food alternatives available to harmfully produced animal products. The more consumers are informed about the fates of the animals they eat, the more motivation they will have to change their consumption patterns.

To eventually achieve external consistency, it will no doubt be necessary to change the attitudes of the general public regarding animals and their fate in the food industry over the long term. Over the last years, more and more researchers have studied prejudices and biases, such as racism, ageism, weight bias, HIV-related stigma, and so on. This body of research shows that most, if not all, humans harbor implicit and explicit prejudices toward other humans. Yet it also shows that biases and attitudes are malleable and may be changed—within some limits—by certain types of interventions (see, e.g., Loutfy et al. 2015; Alberga et al. 2016; Burnes et al. 2019; FitzGerald et al. 2019).

In recent years, speciesism has become a lively topic of psychological research. For example, the *meat paradox*—the fact that most people do not want to hurt animals, but at the same time continue to consume harmfully produced meat products—has been investigated in diverse studies (see, e.g., Loughnan et al. 2010; Loughnan et al. 2014; Jaquet 2021). In their article "The Moral Standing of Animals: Towards a Psychology of Speciesism," Caviola et al. (2019) have shown that speciesist attitudes are stable over time, and that similar mechanisms might underlie speciesism and other forms of prejudice, such as racism and sexism. If this is accurate, we may hope that in the future, interventions will be designed that can successfully reduce speciesist prejudices in society—similar to existing interventions which already successfully reduce other types of prejudices in humans.

The concept of vulnerability is already established in the discourse about human groups. It serves as a powerful marker that draws attention to the fact that some groups are more likely to be overlooked or not considered in the way they should be, and that they are at risk of incurring some serious wrong. Ascribing the concept of vulnerability to certain groups of animals—such as animals unnecessarily suffering in the process of producing food—may have similar effects on public discourse. Extending the concept of a "particularly vulnerable group" from humans to animals would have the beneficial effect of explicitly including animals in the moral sphere via our speech acts. It would show that not only some human groups are at risk of incurring serious wrongs, but that animals, too, can be regarded as particularly vulnerable in many contexts and situations. This designation would thus help us to attend to their fate.

Moreover, describing animals used for the harmful production of meat, eggs, and milk as particularly vulnerable may draw attention to the fact that serious wrongdoing is occurring or is likely to occur, and that something needs to be done about it—that is, that the animals concerned should receive special protective measures to improve their situation. For example, policymakers could be called upon to ensure that all animals' legitimate claims are duly protected. Minimally, animals with similar properties (such as similar welfare and agency interests) should, regardless of their species, benefit from similar forms of protections. Thus, designating the animals who are harmed in the process of extracting their products for food as *particularly vulnerable* may have the beneficial effect of changing the way we think about these animals and may, hopefully, improve their situation over the long term.

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CHAPTER 6

Animal Research

Millions of animals are used every year for research. In the European Union alone, for example, nearly 10 million animals are involved in research and testing on a yearly basis (European Commission 2020). Many studies inflict considerable harm on animals: they are bred with genetic modifications which impair their well-being; they are intentionally infected with diseases; they are handled during experiments in ways which may lead to considerable distress and suffering (e.g., biopsies); they are housed in small cages, which can severely restrict their agency and natural behavior; and in most cases, they are prematurely killed at the study's end. This chapter discusses whether such harmful animal research practices can be justified from an ethical point of view, or whether animals used in research should be seen as a particularly vulnerable group in need of special protection and additional attention.

Humans' using animals for research is a more puzzling case than humans' eating animals and their products. What we lose when we refrain from eating animals is often rather trivial, such as a reduction in gustatory satisfaction, whereas the losses for the animals bred and raised to serve as food sources are often weighty, as they are frequently condemned to an existence full of suffering before being prematurely killed. The case presents itself differently for research with animals: it seems that more important claims of humans are at stake, namely, leading a long and healthy life. Thus, one may be tempted to regard harmful animal research

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as legitimate as long as it improves human health and increases human lifespan.

Animals' vulnerability in research contexts is probably one of the most discussed topics in the animal vulnerability literature so far (see, e.g., Beauchamp et al. 2012; Johnson 2013; Johnson and Barnard 2014; Ferdowsian et al. 2020). The reason is likely that the bioethics literature about vulnerability in research with humans is already highly developed. Some philosophers have taken these writings as their starting point to argue that animals used in research share morally relevant features with vulnerable human research populations. Consequently—so the argument goes—vulnerable research animals should benefit from similar forms of protection (see, e.g., Beauchamp et al. 2012). That is, authors extending the concept of vulnerability to animals used in research demand more protection for these animals than they currently receive. In practice, this may mean that animals should not be involved in harmful research, that research should only be undertaken if the risk to the animals is minimal, or when the potential benefits far outweigh the risk of harming the animals (Ferdowsian and Choe 2013).

I proceed as follows: in a first step, I discuss the view that research animals are already sufficiently protected because animal research is highly regulated and research protocols have to be reviewed by Animal Ethics Committees (AECs). However, as I will show in a next step, currently implemented principles for animal research are insufficient from a moral perspective, for two reasons: first, because they fail to sufficiently respect animals' basic claims in principle; second, because these claims are often not respected in fact. That is, I will argue that the claims of many laboratory animals are indeed frequently at higher risk of being unjustly considered by researchers and AEC members due to the speciesist prejudices still prevailing in current animal research practices. I do not mean that we should entirely abolish all research with animals; rather, I will suggest that animal research should be reformed. Animal research that respects animals' most basic claims is possible. After all, we frequently conduct research with humans, including groups who cannot speak up for themselves or give informed consent. And such research can nonetheless be ethical if several strict conditions are fulfilled. Consequently, I argue that the ethical requirements in place for research with particularly vulnerable humans should be extended to animals in the research context, and I show how this can be done in practice.

Insofar as most current research practices fail to respect animals' basic claims, we can deem many research animals particularly vulnerable. They

are at an increased risk of having their interests unfairly considered because speciesist prejudices are currently deeply entrenched in the practice of animal research. However, this does not mean that *all* current research with animals is ethically problematic. Rather, the ethical acceptability depends on factors such as the specific study protocol, the evaluation by and composition of the Animal Ethics Committee, and the specific animal species.

6.1 The Ethics of Animal Research: Some Preliminary Remarks

Should we deem research animals a particularly vulnerable group? To answer this question, recall the definition of vulnerability presented earlier in this book. My definition of vulnerability reconciles general vulnerability with situational vulnerability: it accounts for the intuition that most individuals are generally vulnerable by their very nature; at the same time, it allows for situations or contexts of increased vulnerability for some individuals or groups, who then deserve special protection and additional attention. I defined as "particularly vulnerable" those who are at a comparatively higher risk of having their claims intentionally or unintentionally disregarded or unfairly considered by those who hold power over the satisfaction of these claims. Due to this increased risk, particularly vulnerable individuals or groups are more likely to incur wrongful harms or mere wrongs. On this reasoning, research animals should be regarded as a particularly vulnerable group to the extent that they face an increased likelihood of having their basic claims unjustly considered by moral agents. Is this the case?

To answer this question, it is useful to take a closer look at different types of animal research. In many cases—but not all—research with animals entails a violation of animals' most basic claims. For example, research animals often are kept in cages, a practice which restricts their agency and thereby violates their claim to lead a self-determined life. Furthermore, research animals are often bred with diseases or other impairments (such as lameness), which is at odds with their claim to bodily integrity. At the same time, one may argue that more is at stake for humans compared to research animals: humans have greater potential for welfare, happiness, and a rich life than animals. For example, humans' life plans and quality of life may be impaired if they do not receive the medical treatments they need. Given that most humans are more connected to their future than

animals, their life may be considered a bigger loss than the loss of life of a laboratory mouse. The question then becomes: in what cases are such violations of animals' most basic claims for humans' benefit ethically justified?

One might be tempted to say that research with animals is justified in all cases where it saves human lives, increases our life expectancy, or improves our quality of life. But for animal research to be ethical, it is not enough that it be beneficial to humans. After all, it may be tremendously useful to force other human beings to participate in a harmful clinical trials or to use their organs against their will to save many individuals. Although such practices could be highly beneficial overall, we nonetheless refrain from undertaking them. This is because the claims of those individuals from whom the organs would be harvested, for example, are more fundamental than the claims of those who would benefit. In most situations, it is clearly unethical to sacrifice one human being to save many. Consequently, it is not solely medical and scientific benefits that matter—ethical considerations matter, too.

Furthermore, we must be careful not to overstate the benefits of animal research. Animal research certainly does not benefit *all* humans and *all* animals. Millions of humans die every year because of starvation, malnutrition, and lack of basic medical care. Their lives are not improved or saved thanks to animal research (Nobis 2012: 251). Thus, animal experimentation benefits *some humans, but not all*. Moreover, while some animal research is beneficial *to some animals* (e.g., when medication is developed to treat their ailments and diseases), not all animals benefit from such medical advancements. Rather, if animals do benefit from animal research, they are often members of certain species which are useful to or appreciated by humans, such as companion animals and farmed animals. Furthermore, not *all* animal research is *directly* beneficial to humans and animals. Much research is done without any aim or expectation of saving or improving human and animal life. An example is basic or fundamental scientific research, which aims to better understand natural phenomena as such. Its results may one day become useful and applicable, but the research is not mainly conducted with this aim in view. Another example is research undertaken for trivial purposes, such as to test the safety of cosmetic or cleaning products. While such tests are forbidden in the European Union (European Union 2009), they are still legally conducted in other parts of the world.

In this chapter, I will mostly pass over research for such futile goals, as the situation presents itself quite simply: the conflict resides between the vital and fundamental claims of animals, on the one hand, and the trivial interests of humans (in new cosmetic products and the like), on the other. It is hard to see how our non-vital interests or mere preferences for new cosmetics could override animals' vital and fundamental claims. While research animals have claims to the absence of hunger and thirst, to the absence of suffering, to the pursuit of normal behavior, to be free from discomfort and distress, to lead a self-determined life and to continued existence (as argued in Chap. 4), humans merely have a preference interest in new cosmetic products—not a claim. Therefore, in the following discussion, I focus on scenarios in which animal research is conducted to *improve human and animal health and quality of life.*

One might wonder why I do not say that animal research is *saving* human lives (and sometimes animal lives, for that matter). Instead, I concentrate on animal research which *extends lifetime* and *improves health, welfare, and quality of life*. As Christine Korsgaard argues, the notion of "life-saving animal research" is, in many cases, inappropriate. After all, everyone will die at some point. Rarely is someone in a situation where she is saved from imminent death by an injection derived from animal research, for example. In most situations, medical treatments "tend to prevent certain kinds of emergency situations from arising at all, or simply to extend the life span" (Korsgaard 2004: 108). Admittedly, there are some scenarios in which a life is spared from premature death—notably the COVID-19 vaccines, which probably prevented millions of early deaths. Another example is chemotherapy to treat cancer: if successful, a person's lifespan is often considerably extended. We have to be careful to neither overestimate nor underestimate the benefits of animal research. Nonetheless, in most cases, it is accurate to talk about medication healing certain conditions or improving quality of life, instead of talking about medication as "life-saving." Neither is animal research equivalent to lifeboat scenarios—that is, scenarios in which the life of a human is directly opposed to the life of an animal in a lifeboat—as many studies and animals are needed in order to eventually develop a treatment for certain health conditions. That is, there is likely not one trial with a certain number X of animals that will save number Y of humans. Animal research is more complex than that.

Nonetheless, some research with animals certainly promotes human health, increases our well-being, and extends our lifespan. Furthermore, some studies conducted with animals benefit the animals' own health,

notably studies with animals which result in treatments and medication for their ailments. Finally, there is also behavioral research—that is, research which helps us to better understand the behavior of animals. In what follows, I focus on these types of research with animals: in what cases is such research *ethically* justified?

6.2 Is Animal Research Under Current Guidelines Morally Justified?[1]

One might argue that research animals' claims are already fairly considered: enough protection and attention are applied to prevent unjustified forms of harm. After all, substantial ethical principles and legal guidelines are already in place to govern animal research. Furthermore, Animal Ethics Committees are meant to ensure that only those studies which are justified from an ethical perspective receive approval. In the following, I discuss whether this reasoning is sound.

What principles are currently in place to regulate animal research? While guidelines in various countries differ in their specific requirements, it is possible to identify some basic research principles that are mandatory for animal research in most countries. The first requirements are the "3Rs," proposed in the late 1950 by William Russell and Rex Burch (Russell and Burch 1959). These 3Rs are: *Replace* (i.e., whenever possible, research animals should be replaced by an alternative non-animal method or model); *Reduce* (whenever possible, the number of research animals should be reduced, provided statistical validity can be guaranteed); and *Refine* (whenever possible, methods should be used which minimize the distress experienced by the research animals or which improve their welfare). Further requirements accepted by animal research guidelines, such as the American Animal Welfare Act, the research codes of the Canadian Council on Animal Care in Science, and the DIRECTIVE 2010/63/EU of the European Union, include social and scientific *value*, scientific *validity*, and *review* by an independent Animal Ethics Committee (European Union 2010; United States Code 2015; Canadian Council on Animal Care 2020).[2] Hence, the 3Rs, social and scientific value, scientific validity,

[1] This section is partly based on Martin (2021). I thank Wiley for their permission to reuse the material.

[2] As the requirement of weighing harms against benefits is not explicitly required in all guidelines (e.g., the Animal Welfare Act), I will not discuss it in detail in this section.

and independent review by an Animal Ethics Committee currently constitute the basic requirements for animal research in most countries. But are they sufficiently protecting animals from unjustified harm in research, in practice?

First, let us discuss the 3Rs, which are probably the most widely accepted principles for limiting harm to research animals. Nowadays, they are implicitly or explicitly required by most animal research guidelines, regulations, and codes. The first R is replacement. Russell and Burch (1959: Chap. 5) distinguish between relative and absolute replacement. In absolute replacement, research is conducted without any sentient animals at all, at any stage. In the case of relative replacement, animals are still used in experiments, yet with as little distress as possible (e.g., their cells, tissues, or organs are used only after their death). Russell and Burch suggest hierarchizing the 3Rs: Replacement takes precedence over Reduction, and Reduction takes precedence over Refinement. Refinement should only be applied *after* it was ensured that replacement is not possible, and after the number of animals has been reduced to the strict minimum.

In practice, however, researchers often hierarchize the 3Rs differently. According to a study conducted by Nuno Henrique Franco et al. (2018), many researchers are skeptical of the idea that all animal research can be replaced by non-animal alternatives: non-animal methods are "mostly seen as complementary to animal use, or at best as potential alternatives to some steps in biomedical research" (Franco et al. 2018: 18). Furthermore, the participants in the survey—researchers undergoing training in laboratory animal science in four European countries—put Refinement first, and Replacement last, contrary to the hierarchy initially suggested by Russell and Burch.

Admittedly, one might argue that the replacement and further reduction of research animals is not possible, because animals are the best model for many diseases and conditions. However, such a view is flawed. If we assume that one of the ultimate aims of research with animals is to heal and improve conditions afflicting *humans*, then humans would naturally be better research subjects than animals.[3] After all, using humans in research instead of animals would avoid many problems related to the extrapolation of research results across species. Understandably, due to ethical issues, we refrain from conducting invasive and deadly studies with

[3] Of course, animal research can be, and often is, beneficial for animals. I will return to this point later in this chapter.

humans—a practice still widely accepted in the case of animals. It is undeniable that some experiments with animals have greatly contributed to medical progress in the form of treatments and therapies, such as vaccines. But as Robinson et al. (2019: 11) note in a review article on the current state of animal models in research, "[o]ver the past decade, however, it has become increasingly clear that conclusions drawn from animal studies cannot be simply transferred to human studies." That is, animal models may not always be the most useful ones for studying diseases and conditions afflicting humans.

There are further issues regarding the implementation of the 3Rs. Reviews of animal studies showed that in many research areas—such as prolonged pain research—the numbers of animals used (such as mice) has been rising over the last 15 years, instead of falling (Balcombe et al. 2013). Generally, the number of animals used in research is holding steady or even increasing in most countries (Goodman et al. 2015; Taylor and Alvarez 2019). Therefore, one cannot say that the use of animals for research has been replaced or reduced overall, as demanded by the 3Rs. Admittedly, it is possible that the number of animals *per experiment* has been reduced while more animal experiments were conducted, which would explain this stagnation or even increase in numbers. Nonetheless, if a main aim of the 3Rs is the absolute or relative replacement of animals in research, then this goal has not yet been achieved.

Furthermore, reporting of the 3Rs in studies is often insufficient: many studies do not report whether and how the 3Rs were implemented in the study design (Taylor 2010; Balcombe et al. 2013; Bara and Joffe 2014). One may object here that researchers are obliged to adhere to research guidelines and thus indirectly respect the 3Rs, as the latter are prescribed by many guidelines and come under scrutiny during evaluation by AECs. However, as the authors of one study noted, "the growing proportion of the number of studies subjecting mice to prolonged pain and the lack of any change in the number of mice being subjected to prolonged pain reported elsewhere in this paper suggests that adherence to guidelines and/or animal use committee requirements is not translating into significant progress from a reduction or replacement perspective" (Balcombe et al. 2013: 17).[4] All these problems have led some animal ethicists to call

[4] There may be differences between countries. For example, the European Union's animal research guidelines are more restrictive, in many respects, than guidelines in the U.S.; consequently, the situation may present itself differently in European countries.

the practical and legal implementation of the 3Rs a "regulatory failure" (Blattner 2019: 168).[5]

Let us now turn to *social and scientific value*. As with research with humans, animal research should only be conducted if it generates new knowledge, is useful to society, or replicates and confirms previous results. However, even if one assumes that the expected value should only benefit humans (and not necessarily the individual animal or animal species in question), there are still—as outlined earlier—experiments which do not address any crucial human health problems but merely serve trivial purposes. Examples include the safety testing of new cosmetic products and cleaning detergents on animals, which is still permissible and conducted in some countries. Tests in these domains do not expand existing knowledge, nor do they serve any important scientific goal. Another example is research that is responsive to rather trivial health or welfare issues of only few humans, such as non-painful, non-harmful, and non-contagious skin irritations or fungal infections.

Research that does not respect the requirement of social and scientific value effectively gives trivial human interests priority over animals' legitimate claims to be free from suffering and discomfort, to pursue normal and species-typical behavior, to live a self-determined life, and to enjoy continued existence. Those groups of animals likely to be involved in such research can be deemed particularly vulnerable insofar as they are at greater risk of not having their claims considered as they should.

A further animal research requirement endorsed by most countries is *scientific validity*. Studies should be conducted with clear scientific objectives and hypotheses in mind, the methodology should be appropriate and valid, the statistical analysis should be sound, and the study should be reported in a way that is comprehensible to other researchers, so that it

[5] These problems with the 3Rs have been recognized in part, leading some researchers to complement them. In recent writings, some bioethicists have argued that while the 3Rs are a necessary condition for animal research, they are insufficient as they stand. Most notably, it was argued that they are problematic if not combined with principles about scientific validity. Daniel Strech and Ulrich Dirnagl, for example, have argued that the 3Rs should be complemented by further 3Rs, namely Robustness, Registration, and Reporting (Strech and Dirnagl 2019). In a similar vein, Matthias Eggel and Hanno Würbel have argued that scientific validity in animal research should be complemented by 3Vs—that is, construct validity, internal validity, and external validity (Eggel and Würbel 2021). I will say more about scientific validity, and show that the 3Rs, even if implemented perfectly, cannot be guiding principles for non-speciesist animal research.

can be replicated. Studies—whether conducted on humans or on animals—which fail to fulfill these conditions are unethical, as they are wasting precious resources, researchers' time and animals' welfare and possibly lives, and may result in harm for both humans and animals: "if poorly conducted studies produce unreliable findings, any suffering endured by animals loses its moral justification because their use cannot possibly contribute towards clinical benefit" (Pound and Bracken 2014: 3). If a study cannot be replicated or fails to generate reliable knowledge, then the death and suffering endured by its research animals becomes simply futile.

In the case of animal research, some studies are methodologically wanting or inadequately reported. As a consequence, the results are irreproducible and thus useless, which goes against the principles of evidence-based medicine. Problems include the use of an insufficient number of animals for yielding reliable and statistically sound results; lack of randomization and blinding; investigation of too many different and potentially interfering parameters at the same time; flawed design, methods, or statistics; and finally, poor reporting and insufficient description of the experiment (such as the sex, age, and health-status of the animals involved as well as the laboratory conditions) such that the study cannot be repeated or false-positive results are published (Hackam 2007; Kilkenny et al. 2009; van Luijk et al. 2014; Green 2015; Avey et al. 2016). This is why some researchers talk about a reproducibility crisis in different fields, including animal research (Baker 2016).

Once recognized, these methodological issues have led to the creation of various guidelines. The *Planning Research and Experimental Procedures on Animals: Recommendations for Excellence* PREPARE guidelines help researchers to plan their study adequately (Smith et al. 2018). Furthermore, the *Animal Research: Reporting of In Vivo Experiments* ARRIVE guidelines of 2010 provide researchers with a checklist designed to improve the reporting of animal research (Kilkenny et al. 2010). Yet despite the endorsement of these guidelines by over 100 academic journals and funding agencies, they are poorly known by researchers and are often not followed (Baker et al. 2014; Vogt et al. 2016). That is, the anticipated improvements in reporting animal research have not yet been achieved. Therefore, in 2020, the ARRIVE guidelines were updated and reorganized in order to simplify their use (Du Percie Sert et al. 2020). Time will tell whether the reporting of animal research will be substantially improved with the updated guidelines. In any event, animals who are likely to be involved in methodologically deficient studies can certainly be described

as particularly vulnerable. Their claims to avoid unnecessary suffering and discomfort, their claim to express and pursue normal and species-typical behavior, their claim to lead a self-determined life, and their claim to continued existence were not given due weight when they were involved in studies that are problematic from a scientific perspective.

A final requirement for ethical animal research is independent review by an external committee. At first sight, one may think that Animal Ethics Committees fulfill the role of independent, unbiased, and fair reviewers—that is, that they actually serve as defenders and guardians of animals' interests. Correspondingly, one might contend that research animals receive the consideration they are due. However, this is not necessarily the case: evaluation by an Animal Ethics Committee is not legally mandatory in all countries (Fakoya 2012). Furthermore, the composition of Animal Ethics Committees can be biased regarding animal research, which may result in an unfair consideration of animals' interests. After all, Animal Ethics Committees often consist of animal researchers and veterinarians who themselves undertake animal research and depend on it for their own research (Schuppli and Fraser 2007; Hansen 2013). In such cases, it is unclear whether one can really speak of genuinely *independent* review, as there may be a bias *toward and in favor* of animal research: animals' interests and the importance of the study's aims may not be impartially assessed according to their respective importance. Additionally, there is disagreement amongst Animal Ethics Committees about key issues, such as what ethically acceptable and thus approvable animal research consists in, or what the exact role of the committee members should be (Plous and Herzog 2001; Ideland 2009; Varga et al. 2012). That is, judgements about the acceptability of animal research studies may vary from one committee to another and from one country to another: not only do the requirements differ between countries, but the composition of Animal Ethics Committees may also lead to different deliberations and outcomes.[6] A further problem with current Animal Ethics Committees' practices consists in the fact that they often do not predominantly discuss ethical issues, but rather focus on technical aspects

[6] Admittedly, a certain variation between committees' decisions is normal both in the case of research with humans and that with animals. After all, ethical deliberation is not an exact science. Nonetheless, when substantial disagreements persist between committees on the very same studies in a *majority* of cases, this may be a sign of the process's being too arbitrary due to a lack of specific guidance on how to evaluate protocols.

such as experimental design and scientific validity (Houde et al. 2003; Ideland 2009; Varga et al. 2012). That is, many Animal Ethics Committees do not focus as much as they should on ethical issues—such as weighing the harms and benefits of a given study—but rather on the study design. Admittedly, as outlined earlier, scientific validity is a cornerstone of all empirical and experimental research. But ideally, studies submitted to Animal Ethics Committees should already be scientifically sound, for instance, because they have been controlled by a biostatistician and other experts. This way, Animal Ethics Committees could focus on their core task, namely, evaluating whether the study is permissible from an ethical perspective. In sum, there are no clear-cut agreements amongst Animal Ethics Committees and their members about what acceptable animal research amounts to. This is problematic for the animals involved in research studies: if Animal Ethics Committee members fundamentally disagree in most of the cases, are biased, or do not know what their role and task in the committee are, how can they then properly evaluate the studies?

So far, I have shown that currently implemented research requirements are often insufficiently respected: animals used in research are currently not, in fact, adequately protected from unjustified forms of harm. If the animals are involved in studies in which at least one of the above criteria—the 3Rs, social and scientific value, scientific validity, and independent review by an Animal Ethics Committee—is likely to be disrespected, then the animals concerned can be considered particularly vulnerable, inasmuch as their interests are not given the weight they are due, and they are at an increased risk of incurring unjustified harm or mere wrongs. Furthermore, *even if* currently implemented research standards were respected, a problem would remain. Currently implemented research standards do not take the moral worth and legitimate claims of animals seriously—that is, they are insufficient from an *ethical perspective*.[7] I turn to this point now.

[7] Recently, some bioethicists have defended further principles for ethical animal research. Examples are David DeGrazia and Jeff Sebo (2015) and Tom Beauchamp and David DeGrazia (2020). They provide principles that can be endorsed by both defenders of animals and animal researchers. Thus, these principles represent a pragmatic compromise, or middle ground, between these two parties. While such principles are surely a step in the right direction, they are not enough. As I will show, if we accept that animals have basic claims and we fully commit to non-speciesism, we do not need to complement currently existing principles in animal research: we need to entirely remodel animal research to render it more similar to research with humans.

6.3 Just Animal Research: Extending Requirements for Research with Humans to Animals[8]

In the last section, I argued that many animals can be considered particularly vulnerable under current guidelines for animal research: their interests do not receive the protection they are due, since basic research requirements are often not respected. However, the situation is actually even more dire than suggested in the last section: currently implemented guidelines for animal research are insufficient from an ethical perspective as well. If we accept that animals count morally for their own sake, that they have basic claims, that similar claims should have the same weight, and that we should avoid speciesism, then we must rethink the conditions under which research with animals can be conducted.

Earlier, I defined as "particularly vulnerable" those beings who are at a higher risk of having their legitimate claims unjustly considered. To have one's claims unjustly considered means, among other things, that they are not considered in an impartial way. From this perspective, speciesist considerations can be regarded as unjust: animals' interests are more easily ignored or discarded precisely because they are the interests *of animals*. Animal research as laid out in the last section—even if all currently implemented research requirements are perfectly respected—is a deeply speciesist practice: animals are enclosed in cages, they are bred with diseases, and they are killed prematurely—practices we would not undertake with human research subjects. If we truly wanted to respect animals' basic claims, we would thus be restricted in what we would be allowed to do with them before, during, and after research. Inducing diseases in animals, for example, would no longer be ethically permissible, nor would experiments which cause the animals substantial suffering or which inevitably lead to their deaths. The same consequence applies to experiments that severely restrict animals' opportunity to pursue species-typical behavior, such as maternal deprivation studies.

Consequently, one might defend the view that research with animals should be entirely abolished on the grounds that it is highly unethical, exploitative, and incompatible with a commitment to non-speciesism. However, this is not the stance I am going to take here. The reason is that ethical research with animals *is* possible, in my view. Indeed, many groups

[8] This section is based on Martin (2022). I thank Cambridge University Press for the kind permission to reuse this article.

of humans cannot consent to their participation in research because they lack the cognitive capacities required for informed consent. Examples are infants and cognitively disabled individuals. Nonetheless, research with them is, in many cases, permissible under certain conditions, and often highly desirable. We should not exclude these groups from research, since this would deprive them of all potential benefits from the research results (Shepherd 2016). Therefore, we do permit research with groups unable to consent *under certain conditions*: if the study involves little or no risk and is not at all or only minimally harmful; if the study cannot be undertaken with another population; if those involved in the study will benefit from the results and their participation is thus in their best interest, determined, for instance, via consent by proxy; and if the involvement of this specific group has been approved during independent review.[9] The same reasoning can be extended to animals. Non-harmful and minimally harmful low-risk research with them should remain permissible, since a complete abolition of all animal research would deprive animals of research results that are beneficial to them individually, to their species, or to other species. If animal research is modeled in a way that respects animals' basic claims, then it remains permissible from an ethical point of view. That is, current animal research requirements do not need to be complemented and refined by further principles. Rather, they need to be entirely remodeled: research with animals should be made more similar to research with humans.

And research with humans is strongly regulated. For example, we are not allowed to render humans sick so that they can serve as study subjects;[10] we are not allowed to close them in without the option of leaving anytime they want; and most definitely, we are not allowed to kill them at the end of studies (e.g., to dissect their brains). Despite medical research's goal to

[9] Admittedly, research with humans can be exploitative and highly problematic from an ethical perspective. An example is the Tuskegee syphilis study, which I outlined in Chap. 2. Nonetheless, I begin here from the premise that research with humans, even those unable to give informed consent, can be ethical if certain requirements are met.

[10] Recently, it was discussed in the bioethics literature whether voluntary infection of healthy volunteers with SARS-COV-2 to study COVID-19 may be ethically permissible. Some authors argued against this practice (see, e.g., Holm 2020), while others argued in favor (see, e.g., Crummett 2021). Note, though, that this was a rather theoretical discussion; to my knowledge, no person was voluntarily infected for COVID-19 research. Furthermore, the permissibility of deliberate infection hinged on the *informed consent* of the potential research participants, which is not directly possible with animals. That is, one cannot infer much from this debate for animal research, as we usually regard it as highly unethical to make humans sick for research purposes.

promote health, knowledge, and well-being at large, there are certain limits regarding research with humans. In order to avoid the exploitation of research participants, protective ethical requirements have been put in place.

These research requirements should be sensitive to humans' basic *claims*, such as bodily integrity and respectful treatment (Tavaglione et al. 2015): it is impermissible to infringe upon or violate the claims of a few human research participants for the sake of health and knowledge of many individuals. In addition, formal requirements have to be respected. An example is scientific validity: research that does not meet this requirement is void, as the results are useless from a scientific perspective. The same applies to independent review by Institutional Review Boards (IRBs).[11] Review by IRBs ensures that the study pursues an important aim, that the methodology is sound, and that research participants are chosen fairly.

In recent years, quite a few philosophers and bioethicists have suggested that we should render animal research more similar to research with humans. However, they have mostly focused on the extension of *single* requirements, and did not suggest comprehensive accounts.[12] Nonetheless, two more complete accounts have been presented recently. In their article "A Belmont Report for Animals," Hope Ferdowsian et al. (2020) argue that the key ethical principles of the Belmont Report—that is, respect for persons and their autonomy, beneficence, justice, and special protection for vulnerable individuals and populations—should be extended to animals used in research. In a similar vein, Lauren van Patter and Charlotte Blattner (2020) argue in favor of the extension of the principles of non-maleficence, beneficence, and voluntary participation to animal research. They assert that these "principles represent a starting point for developing more comprehensive ethics protocols for research with animals" (van Patter and Blattner 2020: 173). These are important and convincing contributions to the literature. Nonetheless, as I will show, they can and should be further refined and complemented. To do so, it is necessary to look more closely at requirements in place for research with humans. A fairly complete account has been suggested by Ezekiel Emanuel,

[11] In other countries and jurisdictions, IRBs may have a different name, for example, "Human Research Ethics Committees."

[12] Examples of single criteria which were suggested to be extended to research animals are respect for autonomy (Fenton 2014; Kantin and Wendler 2015); fair harm-benefit analysis (Ferdowsian and Fuentes 2014; Arnason and Clausen 2016); and respect (Walker 2006).

David Wendler and Christine Grady (Emanuel et al. 2000). They examined different research guidelines and medical research codes, and established a list of seven requirements that should guide all research with humans:

(1) social value,
(2) scientific validity,
(3) independent review,
(4) favorable risk-benefit ratio,
(5) fair subject selection,
(6) informed consent, and
(7) respect for research subjects.[13]

To summarize these requirements, research with humans should be *socially and scientifically useful*, hence, it should address important societal and scientific questions, increase and foster knowledge, and yield valuable results for society. Studies should rely on *accepted scientific principles and methods* to produce reliable and statistically sound results, which must be described in a comprehensible manner so that the study can be replicated by others. *Independent review* requires review and approval of the study protocol by an independent committee. *Fair subject selection* demands that justice and fairness prevail when choosing the population with which the research will be conducted. This means that researchers should choose the research participants based on the study's goals. In practice, this implies that researchers should, for example, refrain from enrolling individuals who are readily available to take high risks (e.g., due to terminal disease or because they are tempted by financial rewards or admission to medical care during the study), especially if the study can be carried out with other populations. *Favorable risk-benefit ratio* requires a just distribution of

[13] One may wonder why I do not discuss the 3Rs here. The reason is that they are not an accepted requirement for research with humans. In their ideal formulation, the 3Rs could probably also be applied to research with humans: one could claim that research with humans should be replaced; if this is not possible, the number of participants should be reduced (while still respecting scientific validity); and finally, the methods should be refined. Nonetheless, in animal research, the 3Rs are used in a way that justifies highly harmful research with animals, which we would not accept for humans. That is, in its current use, the 3Rs can be seen as speciesist. This is why I do not discuss them in this section. Furthermore, it is questionable whether *all* research with humans (and animals) should be entirely replaced, as it may be promising for some research subjects to participate in exploratory studies that investigate diseases from which they suffer.

burdens and benefits: risks should be minimized, and be proportional to the expected benefits of the study (for the individual concerned, but also for society at large). *Informed consent* requires that research subjects consent to their participation after having been given all relevant information and that they understand their involvement in a clinical trial with its concomitant risks. However, some research subjects cannot consent, due to the nature of the study (e.g., research which focuses on unconscious patients in emergency rooms, or patients in a coma), or because they lack the required cognitive capacities for giving informed consent. In this case, consent by proxy is required in the participants' best interest or in accordance with their presumed values. Furthermore, harm and risks should be minimized. Finally, *respect for research subjects* means that participants be permitted to withdraw from the clinical trial at any time, that their privacy be protected by confidentiality, that they be informed of newly discovered risks, benefits, and the study's results, and that their welfare be maintained throughout the study.

In what follows, I argue that these requirements can and should be extended to animals used in research, and I show how this can be done in practice. Note that I discussed social and scientific value, scientific validity and independent review in the previous section, as they are already required for animal research in most countries. However, as outlined earlier, they are not always respected, and in what follows, I outline what their *ideal* application should look like.

Let us start with *social and scientific value*. As with research involving humans, research with animals should only be conducted if it addresses important societal and scientific issues, yields valuable results for society at large, generates new knowledge, or replicates and furthers previous results. The aim of most animal research studies nowadays is to eventually benefit and improve human health and welfare. However, if animals have basic claims, this aim is problematic: if studies are pursued on and with animals, then the benefits should also be useful to individual animals or their species, not solely to humans. If animal research is predominantly responsive to humans' health priorities, then animals carry the undue burden of being used in research from which they do not benefit—which is speciesist. Many animals form part of a shared human-animal society, as humans live with them, and both sides can benefit from inter-species relationships. Furthermore, humans use or affect many animals directly or indirectly with their actions, for example, in the case of domesticated and wild animals. Correspondingly, these animals' interests and health priorities should

also be considered in the common good. In practice, this means that the beneficiaries of the study's results must be identified when establishing animal research protocols. If they are solely a very small human group, or if the study serves to investigate or promote the trivial health issues of a small number of humans, then the study's aims and the allocation of resources to this end should be reconsidered if animals are to be involved.

A further issue related to social and scientific value arises due to the lack of obligatory registries for past and ongoing animal studies, as it is required and implemented for research with humans in many countries. Often, negative results from animal research are not published. This may lead some research groups to undertake research that was already conducted by other colleagues, but not published. This, in turn, results in a waste of researchers' time and other resources and disrespects the requirement of social and scientific value, as no new knowledge is generated. To overcome this issue, researchers and scientific journals should be encouraged to publish negative results, and obligatory research registries should be established. Admittedly, some administrative and practical difficulties need to be surmounted to establish such registries (Baker et al. 2014). For example, steps have to be taken to ensure that researchers cannot use such registries as a source of inspiration for their own research, and procedures have been suggested to this end (Bert et al. 2019). Nonetheless, registries may be useful for preventing the multiplication of already conducted studies which did not result in any new knowledge. That is, such publicly accessible registries could reduce publication bias and thus respect the requirement of social and scientific value (ter Riet et al. 2012; Kimmelman and Anderson 2012; Muhlhausler et al. 2013; Jansen of Lorkeers et al. 2014).

A second requirement for animal research is, as discussed earlier, scientific validity. To respect this requirement means that enough animals must be enrolled in studies to yield reliable, statistically sound results. To avoid confirmation bias, the studies should be blinded and randomized. Furthermore, experiments need to be reported in a comprehensible manner, enabling other researchers to replicate the study. This presupposes a detailed description of the experiments—including the sex, age, and health status of the animals involved, along with the method and details of the statistical analysis.

As outlined above, the requirement of scientific validity is not always perfectly respected in research—whether with humans or with animals—which is why some researchers talk about a "crisis of reproducibility"

(Begley and Ellis 2012; Begley and Ioannidis 2015; Jarvis and Williams 2016). If research with animals is conducted, it should be ensured by the researchers, Animal Ethics Committee, and journal editors that the methods and statistical analysis are well described and sound. This can be done by offering researchers better training about methods and potential biases, as well as by making it obligatory for all articles involving animal research to follow the various guidelines in place for planning and reporting animal research before being accepted for publication. One option to enforce compliance with such reporting would be for journal editors and reviewers to reject articles that do not fulfill these requirements. This may provide an incentive for researchers to improve their manuscripts accordingly. In turn, research laboratories ought to train their researchers to plan and report their studies so that they can more easily fulfill this requirement.

A further requirement for research with humans is independent review by an Institutional Review Board IRB. As discussed earlier, independent review is also required for animal research in most countries; however, the current evaluation practices of Animal Ethics Committees AECs have several issues. AECs are not yet obligatory in *all* countries, nor do they necessarily comprise totally *independent* evaluators—that is, evaluators who are not potentially biased. Furthermore, different AECs may come to opposite verdicts for many studies when evaluating the very same protocols, revealing a lack of clear-cut standards for ethical animal research (Plous and Herzog 2001). A further issue is related to the fact that AECs often do not follow international guidelines, but rather national ones; hence, approval by an AEC in one country may imply a very different protection standard than in another country. Finally, a study conducted in Switzerland produced evidence that the reporting of methods in research protocols is often insufficient yet nonetheless approved by Swiss Animal Ethics Committees due to implicit confidence rather than evidence of scientific rigor (Vogt et al. 2016). While the focus of the study was on Switzerland, similar situations may occur in other countries.

However, this does not mean that AECs are problematic *per se* and should be eliminated. Rather, they should be *reformed*. AECs—similar to IRBs—fulfill the important functions of assessing studies' aims and methods as well as approving the research populations. In order to adequately fulfill this role without undue influences, it should be ensured that AEC members are factually independent from the specific research institution and researchers whose protocols are under evaluation. Another option would be for potentially biased committee members to have to leave the

room during the discussion of research protocols which could give rise to conflicts of interest. In addition, *all* committee members should be appropriately trained. Furthermore, at least one trained ethicist ought to be involved in the evaluation process (Nobis 2019), to provide ethical expertise and to ensure that the committee actually focuses on ethical issues and not predominantly on scientific validity. Moreover, clearer criteria for ethical animal research have to be put in place to reduce variation among the AECs' verdicts. For example, this can be achieved by establishing binding *international* guidelines for ethically acceptable research with animals—as is already in place for research with humans. An example is the Declaration of Helsinki, which presents universal ethical principles for research with humans (World Medical Association 2013). It was established in 1964 by the World Medical Association, and while it is not legally binding, it has nonetheless positively influenced and inspired many national legislations and regulations which govern research with humans. Similar international guidelines or declarations for research with animals would make the evaluation process less arbitrary, as similar standards for animal research would be in place worldwide. After all, animals of the very same species should benefit from similar protection standards, regardless of where exactly the research is undertaken around the world. This would also, in turn, reduce the risk of researchers leaving one country to conduct animal research in another country with less stringent reviews and laws.

A further requirement in place for research with humans is *fair subject selection*. That is, researchers should justify why they enroll specific groups in their study. In current animal research practices, animals are frequently exposed to more risks than humans, while receiving no benefits for themselves, or only a few. As Chong Choe Smith writes: "nonhuman animals bear a disproportionate share of the burdens of research without a showing of sufficient justification—for example, a showing that there are morally relevant and significant differences to justify the ethical use of nonhuman animals in research" (Choe Smith 2014: 181). In principle, researchers should always choose the best model for their research. But in practice, some species, such as rodents, may be more frequently used in animal studies because they are easily available and do not demand a huge investment of space and money, even though they are not themselves afflicted by the condition under investigation. However, if they are an inappropriate model for the condition being studied, then the study should not be conducted with them in the first place. That is, fairness ought to prevail when enrolling animal research subjects: animals should

only be used in studies if they are afflicted with the condition under investigation, if they stand to benefit directly or indirectly from the study's results, or if the risk and harm level is so low that benefits to other species than their own can be justified. This means that Animal Ethics Committees should scrutinize the animal population chosen for study purposes, and demand a justification for why a specific species was singled out. Animal Ethics Committees should treat animals in research similarly to human research subjects who cannot express themselves for or against their participation in research, such as persons in a coma, infants, and severely cognitively disabled individuals. In such cases, Institutional Review Boards should check whether enrolling these groups is necessary for achieving the study's aims, or whether these particular groups were, for instance, selected for mere convenience. The same reasoning can be extended to research animals, as their situation is similar—that is, dependency and inability to speak up for themselves.

Let me now turn to the requirement of a favorable risk-benefit ratio. We refrain from conducting studies with human research populations if the harm and risk involved is too high for them, even if the results obtained would be highly beneficial to society at large. And certainly we would (and should) not accept the death of human research subjects as a normal consequence of a study. That is, studies with humans must have a favorable risk-benefit or harm-benefit ratio. However, animals seldom benefit from the research undertaken on them: the results obtained predominantly serve the human species—a morally problematic distribution of burdens and benefits. Note, though, that research with humans may be permissible even if the research subjects themselves do not benefit from it—if the research participants can consent to the study and are informed of the concomitant risks, or if the harm and risk threshold is so low that participation is permissible without direct consent (when the participants are unable to give informed consent themselves). In the latter cases, consent by proxy in the best interests of these individuals and approval by an IRB is needed. The acceptable risk threshold in the case of humans unable to give informed consent remains disputed in the literature (Kopelman 2004; Binik 2014). I cannot define a harm- and risk threshold for animals here, as this would be a task for a separate project. However, it can be noted that there *should* be some upper harm and risk threshold for animal research, as is the case of research with humans (Beauchamp and Morton 2015). Likely, such risk threshold in the case of animal research should be similar

to risk thresholds in research with humans who cannot speak up for themselves.

This brings me to the requirement of informed consent. Readers may be surprised to learn that the extension of informed consent to research animals is actually quite frequently discussed in the literature. Hope Ferdowsian and Chong Choe, for example, state: "although many animals exhibit intelligence, rationality, and maturity, language barriers prohibit informed consent" (Ferdowsian and Choe 2013: 236). Holly Kantin and David Wendler speak of "the lack of a common language" (Kantin and Wendler 2015: 466), and Jane Johnson and Neal Barnard mention "communication barriers" (Johnson and Barnard 2014: 133). However, these characterizations are misleading. The concept of language and communication barriers suggests that *if* animals could *talk*, then the ethical challenge provided by informed consent would be resolved. But much more than merely language and communication skills are needed for providing informed consent. Informed consent presupposes cognitive capacities such as rationality, the ability to know how to act intentionally in one's best interest, understanding complex circumstances, and the like. According to Richard Healey and Angie Pepper, animals are incapable of giving informed consent because they "cannot understand, form, and communicate complex intentions about normative concepts like rights and duties" (Healey and Pepper 2021: 1225). That is, animals are incapable of giving waivers for their bodily integrity and thus authorizing others to undertake an otherwise impermissible action, such as administering a drug.

Nonetheless, there is another understanding of informed consent that can be fruitfully applied to the case of research animals: *assent* and *dissent* (Kantin and Wendler 2015; Fenton 2020). Many animals, such as dogs, can show us what they want with their actions—for example, their food preferences, or which walking route they wish to take with their human guardian. Animals' embodied actions can serve as indicators of their wishes and preferences; their agency helps us to understand their will and their intentions. Applied to animal research, this means that some form of consent can be obtained by observing animals' behavior: many animals are *physically* capable of showing whether they wish to partake in research or not. Hence, researchers should observe if animals show any signs of dissent (expressions of discomfort or pain, escape actions, etc.). Although it may be difficult to determine the exact source of unease in research animals (since it may also be due to fear, hunger, and the like), paying close

attention to dissenting behavioral cues can help to determine whether the animal is at ease during a study. In practice, this may mean that different methods or analgesia should perhaps be explored to maintain animals' welfare. In the case of strongly dissenting animals, their exclusion from research must be considered.[14]

In some cases, it is also possible to obtain *assent* from research animals, by which I mean their approval of what is happening to them. Assent can manifest itself as animals' not showing disapproval or resistance, their showing approval of what is happening to them, or their affirmative behavior, such as when they join a study setting deliberately, of their own will.[15] An example are chimpanzees in reserves who participate in studies involving video games which test their cognitive capacities: they often engage in such research of their own will, since it presents them with a welcome distraction from their daily life.

This means that in practice, close attention should be paid to animals' behavior and preferences during studies. Researchers should look out for potential behavioral cues that are signs of assent, and steps should be taken if dissent is perceived. If one is skeptical about embodied assent or dissent, or in cases in which it may be hard to perceive—for example, in fish—consent by proxy in the animals' best interests can be considered, provided by human guardians of animals (e.g., in the case of companion animals), or by one or several persons who were officially assigned with this task.

A final requirement for ethical research with humans, according to Emanuel, Wendler, and Grady, is *respect* for research subjects. In practice, this means that research participants should be allowed to withdraw at any time from a study (an aspect I already touched upon when discussing respect for animals' dissent). Further considerations related to respect for human study participants include: ensuring privacy protection,

[14] One may object here that if we should always respect animals' embodied dissent, then many actions in animals' best interest would no longer be possible. Examples are necessary baths or vaccinations of companion animals, to which they may physically object. Yet these actions are *in the best interests of the animals concerned*, which is not always the case with animal research. According to the argument presented here, overriding animals' dissent to administer a necessary vaccination drug may be permissible, while drawing blood from a strongly dissenting animal to use it in a study may be morally problematic.

[15] For a detailed account of animals' assent and the conditions it needs to fulfill, see Healey and Pepper (2021). Gardar Arnason recently argued that animals are incapable of assenting because assent presupposes understanding information about what is going to happen during an event or procedure (Arnason 2020). Yet Arnason refers to a more demanding account of assent than Healey and Pepper, whose conception I am following here, in broad terms.

immediately informing research participants of newly discovered risks or benefits, and communicating the clinical study's results to the participants. To be sure, these requirements may not seem relevant or applicable to the case of animals. However, there is a further understanding of respect for research participants which is relevant, namely, that researchers *maintain the welfare* of their research subjects. This can be described as *beneficence*. Yet current research practices involving animals often fall short of this requirement. For example, it is common practice to induce harmful conditions and diseases in animals, such as cancer or lameness, for the purpose of research—a practice we would deem inacceptable if humans were involved. In my view, non-speciesist research with animals requires that we respect animals' claims to bodily integrity and to the absence of disease, just as we do in research with humans. In practice, this means that it should no longer be allowed to induce diseases and other harmful conditions (such as cancer) in animals.

This brings me to another important point: bringing animals into existence merely to serve as research subjects. Many animals are bred for research purposes, and they will normally spend their whole lives in research settings (such as small cages), with limited possibilities to pursue individual and species-typical behavior. These animals are not brought into existence for their own sake; rather, they are exclusively bred as mere means to the end of research, and usually they will experience a rather low quality of life. If we want to respect animals' basic claims, then we must regard such pure instrumentalization in the form of selective breeding as problematic from a moral perspective.[16] Indeed, we usually think that it is morally reprehensible to bring children into existence *solely* as mere means to an end, such as serving their parents; the same should hold for research animals. To be sure, humans can bring domesticated animals into existence, but these animals must always be valued for themselves: they cannot exclusively be bred for the purpose of animal research alone, being deliberately infected with diseases or having other harmful conditions inflicted

[16] Far more animals are bred than are actually used in research—a fact which is often overlooked when we talk about animal research. If research requires animals of specific strains, there are often animals with undesired phenotypes or properties, who will then be killed, as they cannot serve as research subjects. These "breeding" or "waste" animals rarely figure in statistics about research animals, and their number is not taken into consideration (e.g., during harm-benefit analyses). But if we want to fully understand the scale of animal use, more information must be made public about their numbers and living conditions (Taylor and Alvarez 2019).

upon them. This means that non-harmful or minimally invasive research with *already existing* sick or healthy animals remains ethically permissible, as long as it is in the interest of these animals to participate in a given study, or the (additional) harm and risk level is low. That said, breeding animals solely for the purpose of research is morally problematic if we want to respect animals' basic claims.

Lastly, respect for animals also means that their claim to continued existence must be respected: research animals should not automatically be put to death once a study ends, unless unavoidable suffering or pain makes euthanasia necessary.[17] If we were no longer allowed to breed animals for research purposes, studies would then have to be conducted with already existing animals, such as companion animals or domesticated animals who may themselves benefit from the research results. That is, we would have "animals-as-patients" in research (Johnson and Degeling 2012). These animals would likely have a home where they are taken care of; if not, rehoming or placing animals in sanctuaries should be envisaged.

6.4 Research Animals as a Particularly Vulnerable Group

What follows from the arguments presented here with regard to research animals' vulnerability? I argued, in a first step, that animals can be considered particularly vulnerable under current principles governing animal research, as the requirements in most current guidelines—the 3Rs, social and scientific value, scientific validity and independent review—are often not fully respected. Therefore, many research animals can currently be qualified as a particularly vulnerable group: they are at increased risk of not being given what they are due. In a second step, I argued that current research standards for animal research are insufficient from a moral point of view, as they do not duly protect animals' most basic claims. I further showed that, in order to respect animals' fundamental claims, we do not need to abolish animal research entirely, as this would deprive animals of research findings which could be beneficial to individual animals, to their species, or to other species. Instead, I argued that we can model animal research on research with humans. After all, research with humans who cannot speak up for themselves and consent to their participation in

[17] Similarly to humans who should have access to assisted dying if they find their suffering unbearable.

studies is permissible as long as some basic requirements are met and the risk level is low. The same can—and should—apply to animals' involvement in research. That is, the ethical principles and requirements in place for research with humans should be extended to animals used in research. In particular, I showed how the requirements of social and scientific value, scientific validity, independent review, fair subject selection, favorable harm-benefit ratio, informed consent, and respect can be extended and applied to research with animals. It follows that it should no longer be allowed for humans to breed animals for the sole purpose of research, to induce diseases and other harmful conditions in them, and to prematurely kill them.

If one takes the arguments proposed here seriously, it appears that only non-invasive animal research is ethically permissible. Examples include behavioral studies, harmless or minimally invasive practices such as drawing blood samples, and the use of the animals after their natural death. Further cases of admissible research are those in which "the disease or condition being investigated is one that naturally occurs in the study animal; the animal enrolled in the experiment is already afflicted with that disease or condition; and participation in the research offers the chance of benefit (or no more than minimal risk) to the individual participant" (Johnson and Barnard 2014: 139).

If we take respect for animals' basic claims as the starting point for ethical animal research, we must acknowledge that most animals currently used in research are particularly vulnerable: many, if not most, current research practices are deeply speciesist and disregard animals' most basic claims merely because they belong to animals. Importantly, though, not *all* research animals face a higher risk of having their claims unjustly considered in *all circumstances*. Rather, vulnerability among research animals is a matter of degree. The situation for particularly vulnerable animals therefore presents itself similarly to the case of research with human beings: not *all* human research subjects are particularly vulnerable; rather, whether an individual or population can be described as particularly vulnerable depends on the specific context of the study, the specific population involved, and the study protocol. Moreover, to regard *all* animals as particularly vulnerable research subjects would mask the fact that there are different types of studies (behavioral research, non-harmful studies, and invasive studies), different review boards with more or fewer (speciesist) biases, different animal species with different needs, varying risk thresholds, diverging guidelines in various countries, and so on.

How, then, do we reduce animals' vulnerability in research to an acceptable level? In the short term, AECs have a role to play: when reviewing research protocols, they can and should identify potential unjustified harms in a given research protocol, and take active steps to lower the risks.[18] That is, the specific protection depends on the particular study protocol, the species in question, and the type of claim that is more likely to be ignored. Research animals' situations can be improved by giving their claims more attention, by introducing consent by proxy in their best interest, by adapting research protocols, by lowering the level of harm and risk, or, in many cases, by not undertaking the research at all because it is problematic from a moral point of view. In the long term, we are morally required to take active steps to alter animal research to render it more similar to research with humans. For example, in the case of research with humans, it is not allowed to induce disease in a research subject to investigate its natural progression, nor is it allowed to kill research subjects once a study ends. The same restrictions should hold for research with animals. Ultimately, we should establish international guidelines for research with animals which strongly prescribe and regulate what can be done to and with these creatures, or which can at least inform national guidelines to render research with animals more comparable to research with humans—and thus more ethical.

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[18] This type of procedure was proposed by Hurst (2008) for the case of IRBs, and the same reasoning can, in my view, be extended to research with animals.

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CHAPTER 7

Wild Animals

This penultimate chapter discusses wild animals' vulnerability. To be sure, this topic may come as a surprise. After all, the last two chapters drew connections between vulnerability and two types of *harmful uses* of animals by humans: using and killing animals as a source of food, and using animals as research subjects. In these cases, humans caused the animals' plight. However, the situation presents itself differently in the case of wild animals: they seemingly live independently from human influence. I define here as "wild animals" those animals who are neither domesticated nor in direct interaction with humans on a regular basis.[1]

Earlier, I distinguished among three different manifestations of vulnerability: non-preventable harm, justified harm that cannot be considered morally problematic since it does not constitute a wrong, and wrongs (with or without harm) that could and should have been prevented. At first sight, we might think that any harm wild animals incur (such as diseases or accidents) falls into the first two categories, that is, non-preventable or morally justified harms. After all, are not all the harms wild animals incur in their daily lives either non-preventable or justified, given that they

[1] There is a third category between wild animals and domesticated animals, called "urban" or "liminal" animals or "animals in the contact zone," which I cannot discuss in detail here. These animals, who live in urban contexts or visit human settlements from time to time, benefit from irregular contacts with humans. Examples are rats, foxes, and pigeons; these animals feed on garbage produced by humans, are sometimes fed by humans, or benefit from nesting and sheltering opportunities provided by human housing.

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are not caused by moral agents? That is, one could argue that the harm wild animals incur is beyond the realm of human morality. Why, then, devote a whole chapter to the topic of wild animal vulnerability?

Nonetheless, this chapter aims to investigate whether the harm wild animals incur in their daily lives is justified from an ethical perspective. I will argue that, in many cases, it is not, as wild animals can also hold basic claims—ones which are frequently overlooked by humans. What is more, moral agents often fail to compensate wild animals for the harm we cause them. For example, humans destroy wild animals' habitats (e.g., to extract natural resources) which, in turn, endangers wild animals' subsistence. I will argue that in such cases, humans have a compensatory duty, although we often neglect it. Many groups of wild animals thus face an increased likelihood of having their claims unjustly considered—or not at all—by moral agents, and are thus at risk of incurring unjustified forms of harm. Accordingly, wild animals can often be described as a particularly vulnerable group in need of more attention and special protection to reduce their risk of being wronged and to increase their chances of eventually receiving what they are due. In other words, the function vulnerability discourse performs in the case of humans can also be performed in the case of wild animals: it highlights those beings who are more likely to have their basic claims disregarded and neglected and who are thus more likely to incur wrongful harm.

I proceed as follows. First, I present a short overview of the different forms of suffering and distress animals incur in the wild. I show that in many cases, humans have the means to alleviate the harms endured by wild animals. I also contend that wild animals can hold valid claims against moral agents, who have a duty to give these claims their due weight. However, as I will show, humans frequently fall short: moral agents frequently do not leave wild animals alone when we should, nor do we properly assist and support them when required. This is a first way in which wild animals are particularly vulnerable: their claims frequently receive less weight than they should receive. As a consequence, these animals should be given more attention in public discourse. In practice, this also means that moral agents should reconsider several activities related to wild animals: research priorities, the distribution of land amongst humans and animals, and the use of natural resources on which wild animals' subsistence depends.

In a second step, I argue that if moral agents fail to give wild animals' claims due weight and end up harming them unjustifiably (e.g., due to oil

spills or the effects of anthropogenic climate change), they owe them some sort of compensation, reparation, or restitution (I use these terms here interchangeably). I also show that this duty of compensation is often disregarded in practice; as a result, many wild animals are frequently denied what they are legitimately due. This is thus a second way in which humans render wild animals particularly vulnerable: not only do moral agents frequently fail to respect wild animals' basic claims (be it intentionally or unintentionally), but they often fail to compensate these animals for the harms incurred. Wild animals should, therefore, be considered a particularly vulnerable group deserving of more protection and attention—and I will outline what this means in practice.

7.1 The Plight of Wild Animals

One might be tempted to describe the state wild animals find themselves in as idyllic—a life unperturbed by negative human influences. The reality, however, is less blissful. In their daily lives, wild animals encounter many dire situations charged with stress and fear. Furthermore, wild animals' lives are not as independent of human actions as we might think.

Animals in the wild face stress and anxiety in many situations. For example, they are often on the look-out for food and shelter, and they suffer from diseases. In addition, they frequently fear for their own lives as well as the lives of their offspring, because they are constantly threatened by predators. Richard Dawkins vividly summarizes this state of affairs: "The total amount of suffering per year in the natural world is beyond all decent contemplation. During the minute it takes me to compose this sentence, thousands of animals are being eaten alive; others are running for their lives, whimpering with fear; others are being slowly devoured from within by rasping parasites; thousands of all kinds are dying of starvation, thirst and disease" (Dawkins 2004: 131–132).

The field of welfare biology is concerned with questions such as which animal species are capable of experiencing welfare, whether animals' welfare is positive, negative, or neutral, and how the welfare of these animals can be improved (Groff and Ng 2019). Welfare biologists are concerned not only with the welfare of animals used by humans, but also with the welfare of *wild animals*. Yew-Kwang Ng (1995), for example, argued in an influential early article that, in the wild, suffering outweighs enjoyment: wild animals often experience more suffering than pleasurable moments

during their lifetime.[2] Others have argued in a similar vein (see, e.g., Horta 2017; Johannsen 2021; Soryl et al. 2021; O'Brien 2022; Faria 2023).

And indeed, many wild animals encounter considerable suffering and distress during their lifetime: they experience accidents and diseases, they fall victim to predators, they experience the loss of family members and corresponding grief, they endure harsh winters without enough food, and the like. When it comes to wild animals' lifespan, the distinction between animals traditionally known as K-strategists and r-strategists is illuminating. Examples of K-strategists are giraffes, lions, eagles, and elephants. They have fewer offspring, each of which has a relatively high probability of surviving until the age of maturity and beyond. However, many species are r-strategists. R-strategists are animals who have a high reproduction rate: they produce many offspring, each of which has a relatively low likelihood of surviving to adulthood. Common examples are rodents and fish. Many wild animals die at a young age and are thus deprived of potentially valuable lifespan, and this is *especially* the case for r-strategist animal species. Many of them are killed by predators shortly after birth or at a very young age, or they inevitably die because of limited natural resources (such as food). For example, 88% of meadow voles die during the first month of their lives (Johannsen 2021: 13). Among fish, size is inversely correlated with mortality: smaller fish (e.g., shortly after hatching) face a higher risk of dying prematurely due to predation (at rates over 60% per day), as "small animals can quite literally fit in more mouths, and as such, may suffer a greater risk of predation" (Goatley and Bellwood 2016: 1).

Why, then, do we often picture the lives of wild animals as blissful and idyllic? This can likely be explained by a "survivorship bias" (Horta 2010: 76–77; Johannsen 2021: 22). The animals we see are those who have survived so far, and we forget about those who died at a young age. In addition, we tend to overlook smaller animals (often r-strategists) because we see them less frequently. That is, if we think about enjoyment, pleasure, and happiness in the wild, we usually picture bigger, K-strategist animals, thereby forgetting or overlooking the innumerable plights of r-strategists who frequently die at a young age.

[2] Recently, though, Yew-Kwang Ng and his co-author Zach Groff revised this assessment, averring that the question of whether suffering or enjoyment *dominates* in nature currently cannot be conclusively answered, and that we should, for the moment, remain agnostic (Groff and Ng 2019).

So far, I have established that the lives of wild animals is not as pleasurable as we often picture it. Many wild animals experience stressful moments, suffer from diseases, and die at a young age. But there is a second issue: wild animals often do not live as independently from human influence as we may think. In fact, humans interfere with their lives in many ways. For instance, humans exploit their habitats (e.g., to extract natural resources such as oil and trees), which disturbs the resident wild animals and causes them considerable distress. Agricultural expansion encroaches onto wild animals' habitats, leading to deforestation and the replacement of natural vegetation. In turn, this results in species loss, because animals are deprived of the natural habitat which forms the basis of their subsistence. More generally, humans also contribute to climate change, which negatively affects the lives of many wild animals. For example, rising sea levels will make the habitats of many wild animals disappear altogether. A systematic review found evidence that over 700 species are already negatively impacted by climate change (Pacifici et al. 2017).

Some think that moral agents minimally owe sentient animals something if we directly *caused* these animals' negative welfare state. That is, humans only owe wild animals something when we are *responsible* for the harm these animals have incurred. According to this view, if humans destroy the habitats of wild animals, for example, then we owe them some sort of compensation. Conversely, many people think that if humans did *not* cause the problematic situation wild animals find themselves in, it is better to leave them alone. This is called the "laissez-faire intuition," which results in a "hands-off" approach toward wild animals in most contexts (Palmer 2010: 2).

In the following, I discuss whether this is correct, and analyze how the debate about what we owe to wild animals can be linked to vulnerability discourse. I argue that many groups of wild animals should be regarded as particularly vulnerable groups for two reasons: first, because humans often fail to fairly consider wild animals' basic claims; second, because humans often neglect to compensate wild animals for the harm we cause them. In other words, moral agents frequently overlook, ignore, and forget wild animals' basic claims. Therefore, these particularly vulnerable beings should be afforded additional attention to eventually receive what they are legitimately due.

In order to develop my argument, I need to show that wild animals can be claim-holders, and that humans have the abilities to respect and, if necessary, to fulfill these claims. After all, if moral agents lack the capacities to

improve wild animals' welfare, for example, then wild animals cannot have a claim related to this point. In a second step, I need to determine whether wild animals' claims are likely to be disregarded by moral agents.

Let us turn to the first point. I argued in Chap. 3 that moral agents have a duty to justly consider those claims over which they have power. To have power, in this context, means to have the ability to positively or negatively influence a situation. I further argued, based on an argument proposed by Peter Singer (Singer 1972), that moral agents sometimes have power over the satisfaction or dissatisfaction of the interests of individuals *living far away*. That is, I accept Singer's view that distance *per se* does not matter from a moral point of view. This reasoning leads to a *pro tanto* duty to alleviate and reduce avoidable suffering. As Singer (1972: 231) states: "if it is in our power to prevent something bad from happening, without thereby sacrificing anything of comparable moral importance, we ought, morally, to do it." This view implies that moral agents may be morally blameworthy for actions and omissions for which they were not directly and personally assigned responsibility. This is the case if they fail to prevent suffering (such as diseases) which is happening far away from them but which they could have prevented by investing a reasonable amount of money or time.

Let us now apply these insights to wild animals. In actual fact, humans often have the technical abilities and means to alleviate wild animals' suffering and to improve their life. As Beril İdemen Sözmen (2013: 1077–1078) notes, interventions within nature are frequent and generally go unnoticed by the public. For example, wild animals are saved from drowning, protected in reserves for species conservation, have their injuries treated or are given pills against parasites. Further examples of interventions in nature are vaccinations for wild animals, habitat transformations, or the treatment and rehabilitation of injured animals (Kirkwood and Sainsbury 1996). According to Sözmen, then, "the question is not, whether humans should or in fact do intervene in nature to alleviate non-human harm or how absurd such intervention is. The question is rather, if intervention is morally obligatory, and if yes, what such an obligation entails" (Sözmen 2013: 1078).

One might concede that moral agents have duties in the case of suffering *human beings* who live far away from them, yet contend that these duties *do not extend to the case of wild animals* in need, insofar as wild animals cannot hold claims against humans. However, such an exclusion

of wild animals from the scope of morality is problematic. As I have shown in Chap. 4, sentient animals can generally hold claims against humans. It is therefore unclear why sentient *wild* animals should be incapable of being claim-holders. Even if one assumes that wild animals live totally unaffected from human influence, it is still true in many situations that humans wield the power to positively influence the course of wild animals' lives (e.g., by providing medical treatment or food during harsh winters). If one accepts that moral agents have moral obligations toward distant strangers in need, it is then hard to justify why such obligations should not be extended to distant wild animals in dire need—assuming we seek to avoid speciesist discrimination.

Note that in this chapter I am mostly concerned with specifying *what humans owe wild animals*, along with explaining how not giving wild animals what they are due renders them particularly vulnerable. I focus less on *who* precisely bears the burden of such duties. By framing the duty in terms of the relevant moral agents who have the power to positively influence wild animals' lives, I am leaving room for a variety of views about a number of related questions, such who exactly bears this duty, how to assign this duty, and whether collectives or individuals are duty bearers. Admittedly, moral agents vary greatly in the power, opportunities, and resources available to them to improve wild animals' lives. Nevertheless, *most* individual moral agents frequently have the possibility to positively influence the course of wild animals' lives. For example, individuals can assist wild animals individually (i.e., by respecting their basic claims, by providing them with food or assisting them after accidents); at a minimum, they can talk publicly about the plight of wild animals while supporting organizations and individuals who are providing assistance to wild animals or who are advocating for more research in this domain.

In sum, I have established so far that there is abundant distress, suffering, and premature death among sentient wild animals. I further argued that moral agents often have the capacity to positively influence the course of wild animals' lives, or at least to avoid causing them unnecessary harm. Therefore, moral agents have a duty to justly consider not only the interests of humans but also those of sentient animals—both domesticated and wild. Therefore, the basic interests of animals outlined in Chap. 4 also have the status of legitimate *claims* in the case of wild animals, if humans have the capacity to fairly consider and potentially satisfy them. These claims are:

1) a claim to the absence of hunger and thirst;
2) a claim to the absence of suffering (absence of pain, injury, and disease);
3) a claim to express and pursue normal behavior;
4) a claim to the absence of discomfort, fear, and distress;
5) a claim to lead a self-determined life; and
6) a claim to continued existence.

But what follows from this *in practice* with regard to humans' duties toward wild animals?

7.2 Wild Animals' Claims and Humans' Duties[3]

In the last section, I established that sentient wild animals can also hold valid claims. That is, not only are humans and domesticated animals claim-holders, but wild animals are as well. What does this position imply for human interactions with these animals and their treatment of the latter? In many cases, respect for wild animals' claims means that humans owe animals *negative duties of non-interference*. Some of these duties are straightforward: if wild animals have a claim to continued existence, then moral agents have, minimally, a *pro tanto* duty not to kill them. Admittedly, there may be some exceptions to this rule. An example is self-defense against an attack by a wild animal. However, whenever possible, humans should respect wild animals' claim to continued existence, by not ending their lives prematurely.

Furthermore, if we accept that wild animals have a claim to the absence of suffering, discomfort, fear, and distress, then humans have a corresponding duty not to cause any unnecessary and avoidable harm, such as distress and suffering, to wild animals. This means that humans should avoid interventions in wild animals' lives which lead to considerable distress and which risk causing harm to these animals. Examples are noisy, disturbing visits to animals' natural habitats (e.g., disrupting hibernation periods, or taking off-track paths).

With regard to wild animals' claim to the absence of hunger and thirst, humans have a duty, when in the wild, to abstain from interventions that threaten wild animals' subsistence and survival. In practice, this means that humans should not, for example, pollute rivers and lakes in ways that

[3] Parts of this section are based on Martin (2021).

threaten the survival or welfare of the animals who depend on these water sources. Furthermore, humans should not undertake any actions that threaten the availability of food for wild animals in their natural environment. This means that humans ought to protect and respect natural habitats (i.e., natural vegetation like trees and bushes), so as not to jeopardize wild animals' subsistence.

Wild animals' claim to express and pursue normal behavior entails that humans ought to refrain from any actions which would interfere with wild animals' abilities to lead a species-typical life. In practice, this means that humans should, whenever possible, forgo actions which harm the social bonds of wild animals, for instance by hunting or capturing individual animals. Furthermore, humans should preserve nature in a way that allows wild animals to pursue their natural (and also individual) behaviors, such as building nests or tunnel systems to raise their offspring. Moreover, humans have a *pro tanto* duty to respect and protect the migratory routes of animals who tend to migrate over large territories (such as wolves, elephants, and some birds), so that these animals can continue to express their natural behavior. In practice, this may imply that humans must reconsider where they build high towers or roads, for example, to reduce interference with natural migratory routes.

So far, I have fleshed out humans' *negative duties* with regard to wild animals' claims. That is, I outlined what humans should *not* be doing to and with wild animals, as well as their habitats, territories, and sustenance. However, do not some of wild animals' claims also imply that humans have *positive duties of assistance*? After all, if wild animals have a legitimate claim to the absence of thirst and hunger, does this not mean that humans should not only avoid polluting animals' food and water sources, but also *provide* them with food and clean water (e.g., during hot summers, harsh winters, or times of drought)? Even more controversially, if wild animals have a claim to continued existence, does this not imply that humans actually have a duty to intervene in nature to assist wild animals by protecting their health and lives? After all, as outlined earlier, many wild animals die prematurely, and they encounter various sources of distress during their lives, such as when they become sick or fall prey to predators who devour their bodies alive. Or do humans only owe duties of non-interference, rather than assistance, to wild animals, in cases where humans did not cause the dire situations in which wild animals find themselves?

The duty to intervene in nature for the sake of wild animals used to be an argumentative *reductio ad absurdum* in the field of animal ethics. In

recent years, however, the ethics of intervening in the wild has received considerable attention and support in the literature (Hadley 2006; Nussbaum 2007; Horta 2010, 2013; Cochrane 2013; Horta 2017; Johannsen 2021; Horta 2022). As I will contend in what follows, humans do not have merely negative duties when it comes to wild animals (such as a duty to not pollute their territories, or to not kill game). In some circumstances, moral agents also have a *duty to assist* wild animals. In the next sections, I show under which circumstances this is the case.

The view that humans sometimes have a duty to assist wild animals is not new. John Hadley, for example, argues that we have "a duty to provide aid at minimal cost to ourselves—'minimal aid and assistance'—to free-roaming non-human animals […] in dire need" (Hadley 2006: 446). In support of this point, he presents different ecological catastrophe scenarios. In the first one (e.g., in the event of a drought, or in the aftermath of a tsunami or an earthquake), the lives of many human beings are in jeopardy. They have many basic unmet welfare interests, such as for food, clean water, or basic medical treatment. In this case, our intuitive belief is that moral agents have a duty to aid and assist under three conditions: first, if it is possible from a logistical point of view (i.e., they can actually do something about the situation); second, if the intervention is not too financially burdensome; and third, if human beings, such as aid workers, are not put at risk.

The second scenario involves the same setting, but instead of humans, wild animals face the harmful event in question: animals are confronted with a situation of dire need, such as a drought. Here, one might be tempted to discard the view that we humans owe duties of assistance to these animals. However, if we want to avoid the charge of speciesism, then we should also assist wild animals in situations which would warrant help and assistance if humans were concerned. To the extent that we are committed to avoiding speciesist forms of discrimination, we have compelling reasons to assist wild animals who find themselves in situations similar to those warranting assistance to humans.

One might still object to the argument proposed here. One might argue that the analogy in these thought experiments does not hold, as the *initial baselines* of well-being between humans and animals differ substantially: the humans in this thought experiment were living healthy and flourishing lives *before* the catastrophe happened and are thus *made worse off* by this unfortunate event. Wild animals, however, were always badly off if they lived in places with restricted food options or areas at high risk

of forest fires and droughts. That is, one could claim that wild animals frequently live in what could be called *failed states*—contexts which often entail more suffering, violence, and death than pleasure and enjoyment (Horta 2013; Mannino 2015; Milburn 2016). Why, then, should we have a duty to improve these animals' living situation, if they were not necessarily made worse off?

This objection does not hold up to scrutiny, however: we do not think that a human population A, which was always living under bad circumstances (such as areas with a high risk of droughts), deserves less attention and assistance than another human population B which was flourishing before suddenly undergoing a natural catastrophe. That is, it should not make any difference whether the interests of individuals living remotely from us were previously satisfied and then suddenly frustrated by unavoidable external circumstances, or whether these interests were constantly unsatisfied (Martin 2021: 209–210). As pointed out earlier, frustrations of interests do not only occur if previously fulfilled interests are suddenly thwarted: they also occur if someone is impeded from achieving some potential welfare state that they previously did not have, but legitimately can and should have.

A further objection against human interventions could be that wild animals have a claim to non-interference. After all, I argued earlier that sentient animals, including wild animals, have *a claim to lead a self-determined life*. Is not this claim at odds with interventions in nature? Do we not violate animals' agency and self-determination if we interfere—even positively—in their lives? It is hard to accept this argument for two reasons. First, to lead a self-determined life as a wild animal is not at odds with human interventions. If humans intervene to improve wild animals' welfare, this also improves the likelihood that these animals can lead an active, autonomous, and self-determined life. That is, interventions in the wild sometimes actually *enable* animals to lead a self-determined life. If humans provide animals with food or water during harsh winters, for example, we thereby provide animals with the basics that allow them to lead a flourishing, self-determined life. Second, as outlined earlier, animals fulfilling the conditions of vulnerability ascriptions have welfare interests. This means that some things (e.g., access to fresh water and food) are in their interest. It is hard to see why non-interference should be in wild animals' interests in all cases, if some forms of assistance fundamentally improve their basic welfare.

How far does the human duty to assist wild animals extend? So far, I have mostly focused on assistance provided to animals after catastrophes and in situations of distress or suffering in which humans can often provide help easily. However, much suffering in nature is actually caused by animals themselves—in particular, predators preying on other animals. Does the duty to assist wild animals lead to the presumably absurd consequence that humans also have a duty to intervene in nature to halt predation?

A strategy for avoiding this conclusion is the *Moral Agency Argument* (Sözmen 2013: 1078). It claims that humans are not obliged to intervene against natural predation because animals are not moral agents; as such, predators cannot commit any moral wrongs since they are not responsible for their actions. That is, predators cannot hold any duties and thus do not violate the claims of the prey animals they attack. And if nobody is morally responsible, so the argument goes, then humans have no duty to intervene (for a presentation of different versions of this argument, see Sözmen 2013 and Milburn 2015).

The *Moral Agency Argument* fails for a simple reason, though. Imagine a human being who is not responsible for her actions (e.g., due to substance abuse or a severe cognitive deficit). If she is violently attacking another person, we would usually consider it obligatory to intervene and help the person who is under attack. However, this duty of assistance is restricted: we only owe a duty of assistance *if our intervention does not come at too high a risk* to ourselves. That is, we cannot be asked to sacrifice our bodily integrity and safety in such a case. The same should apply when assisting wild animals: we have a duty to assist and intervene, yet not at the expense of our own safety. In the case of predation, most interventions are likely too risky to humans. Nevertheless, this does not preclude positing a duty to intervene and assist if wild animals are in dire need and if we could assist them with little or no risk to ourselves.

A second argument against intervening in nature is the *Implementation Argument*. This argument accepts that avoidable animal suffering should be prevented or alleviated. However, according to this view, it is impossible to intervene in nature from a practical point of view: "Demanding equal moral consideration for non-human animals is pointless, the argument goes, when it's impossible practically or too costly to be contemplated" (Sözmen 2013: 1081). Admittedly, in some cases it may indeed be impossible from a practical point of view to intervene and improve the fate of wild animals. Nonetheless, in some situations it is practically feasible to

substantially improve the plight of wild animals—and in these cases, we should do so.[4]

Admittedly, we humans have a rather bad track-record when it comes to our relationship with nature: we are a threat to biodiversity, we drive thousands of animals to extinction, we cause climate change, and we frequently pollute nature and destroy habitats (Hunter 2007). In addition, we may not always be aware of all the consequences of our interventions in nature. Such interventions may be problematic for the ecosystem or for other animals: we may, for example, destroy ecological stability in nature through our interventions, with devastating consequences. Therefore, we may currently prefer a *laissez-faire* approach when it comes to interventions in the wild: to keep our hands off nature. And indeed, if the consequences of a potential intervention are unpredictable, or even undesirable in the long-term, this provides us with a strong reason against undertaking it. Currently, humans often lack the knowledge about the impact and potential negative consequences of some interventions in the wild. For this reason, it is reasonable to accept a prudential principle which claims that one should only intervene if one is *likely* to produce more good than harm—that is, if the anticipated benefits clearly outweigh the anticipated harm.

At the same time, such potential ecological risks do *not* diminish the duty to fairly *consider* wild animals' basic claims in various contexts and situations. All too often, humans do not think about the plight of animals when making decisions affecting them and the nature they inhabit. Furthermore, ecological risks related to interventions do not exempt humans from a duty *to conduct research* on how to improve the lives of wild animals in the long run.

To sum up what has been said so far, sentient wild animals can be bearers of claims. Amongst others, wild animals have claims to continued existence, to leading a self-determined life, and to be free from suffering, disease, and the like. In turn, humans have *pro tanto* duties when it comes to these claims. When I talk about *pro tanto* (instead of *pro toto*) duties, I

[4] In recent years, the ethics literature on wild animals went a step further. It was suggested that we should genetically edit wild animals (e.g., with CRISPR) to put an end to gruesome predation and also to reduce suffering in the wild altogether (Johannsen 2021). However, these techniques are still rather speculative, and likely only future animals would benefit from them. In this chapter, I focus on the types of duties owed to *currently existing animals*. Of course, this does not preclude us from investigating how future wild animals could best be benefited in the long run.

mean that these duties are not absolute: they can be overridden if they conflict with more important duties and claims. That said, in usual circumstances, when there is no conflict between crucial interests of humans and animals, these basic duties with regard to wild animals should be respected.

According to my argument, respect for wild animals' claims means that humans owe wild animals not only duties of non-interference, but also sometimes positive duties of assistance. For example, humans can provide wild animals with vaccinations to improve their health and potentially extend their lifespan, assist them during droughts, save them from forest fires, feed them during unusually harsh winters, rescue them after accidents and natural catastrophes, and so on. It also follows that not all naturally occurring harm is ethically justified. Rather, if humans have the means and ability to prevent and alleviate natural harm, then we have a duty to do so, in many cases. Allowing harm toward wild animals thus is only justified if humans have fairly considered the claims of wild animals, yet supplied justifiable reasons for instead giving priority to the weightier claims of other individuals (humans or animals).

When distributing resources such as time and money, if the claims of wild animals are likely to be given comparatively less weight than they are due, then wild animals qualify as a particularly vulnerable group. This is likely often the case: humans frequently overlook wild animals' claims and fail to devote sufficient resources and time to improving their welfare. The same holds for many research priorities: the fundamental interests of wild animals are likely not given enough weight when research priorities are set. And all too often, wild animals are merely considered parts of the ecosystem—not as individuals with self-determined lives who can experience pleasure and pain. If humans intervene in nature to help wild animals, frequently only a few species benefit from such assistance, such as animals threatened by extinction, or animals of certain species which the public finds cute or interesting. For example, when people are asked to donate money to help different animal species, priority is given to rare or endangered species, animals deemed "charismatic," and those animals who fulfill a crucial role in the ecosystem (Martín-López et al. 2008; Angulo and Courchamp 2009; Richardson and Loomis 2009; Wainger et al. 2018). Furthermore, larger animals elicit more donations than smaller ones (Veríssimo et al. 2018). This shows that there may be biases toward some species of wild animals, to the detriment of others. Compared to other groups of animals (such as companion animals) and humans, many species of wild animals are more likely to have their legitimate claims

overlooked or simply ignored. As a consequence, they can be considered a particularly vulnerable group in need of special protection and attention.

What should this special protection and additional attention look like? As a first step, we have to collectively recognize the moral importance of individual sentient wild animals. Furthermore, we must acknowledge that we owe duties to wild animals. Once these goals have been achieved, we will have to reconsider how we treat wild animals. In practice, this means that during political deliberations about the use of natural resources and land, priority-setting, and research funding allocation, the claims of wild animals should be given more attention. In addition, when taking decisions affecting wild animals (such as building roads in the countryside, or during landscape and city planning), we should consider how wild animals may be affected; correspondingly, steps should be taken so that these decisions are compatible with respect for wild animals' basic claims.

Publicly identifying wild animals as a vulnerable group may have a further positive effect: it may effectively change the way we think about these animals. It orients our attention toward the fact that these animals belong to a group whose interests are currently overlooked. This recognition will help us remember to take their plight into consideration when making certain decisions (e.g., how to allocate public resources or whom to aid in the aftermath of natural catastrophes).

So far, I have argued that respect for wild animals' claims sometimes involves a duty to intervene in nature for the sake of wild animals when the risk is low and the expected outcome is net-positive. Thus, the question is not whether humans should intervene in nature for wild animals' sakes, but rather how strong this duty is compared to other duties (e.g., with respect to humans and animals closer to us, to animals we previously wronged, or to other instances of suffering in the world). It is possible that our duty toward wild animals with whom we have no interactions may sometimes be outweighed by more important duties toward animals closer to us who may be in greater need. Be that as it may, this amounts to an issue of priority-setting and is not an argument against duties toward wild animals in general. Furthermore, I have argued that many groups of wild animals can be identified as particularly vulnerable because we are likely to overlook their basic claims. In addition, there is a second way in which wild animals are particularly vulnerable: often, humans intentionally or unintentionally disrespect wild animals' claims, but then fail to properly make up for these violations. I address this topic in the following section.

7.3 Violations of Wild Animals' Claims and the Duty to Compensate

Humans negatively affect the lives of wild animals in many ways: we destroy their habitats (e.g., in the search for natural resources), we pollute their habitats (e.g., oil spills), and we cause climate change, which may have a negative impact on wild animals' lives.[5] If wild animals do indeed have the six basic claims outlined before, what do humans owe animals if we disrespect these claims and cause harm? And what is the precise link between such harm and animal vulnerability?

In this section, I suggest that if humans fail to respect wild animals' basic claims without a solid justification, then we owe the affected animals compensation, reparation, and restitution (while there are slight differences among these terms, I use them here interchangeably). Moreover, if humans fail to compensate wild animals for the intentional and even unintentional harms we have caused, then these animals are wronged by not receiving the reparation they are due. This leads to a second group of wild animals we can deem particularly vulnerable: those animals whose claims for reparation, restitution, and compensation are not fulfilled.

Most people accept that if we wrong someone, we owe them compensation, restitution, or reparation. For example, if I injure another person intentionally or even unintentionally, I owe her some sort of compensation: I (or my insurance company) have to pay her medical bill and maybe even damages. Various philosophers have argued, in the same vein, that the same principle holds for animals who are victims of humans' actions: if we wrong them, we owe them some sort of compensation or reparation (Palmer 2010; Mosquera 2016; Fischer et al. 2021). Fischer et al., for example, note: "If you are responsible for large-scale harms to wild animals in wild ecosystems, then you have some duty of repair to those wild animals" (Fischer et al. 2021: 17).

As outlined earlier, we may sometimes have good reasons to override the claims of wild animals. There are cases in which more important human claims should be given priority over animals' claims. For example,

[5] One may be puzzled that I have not discussed the duty of compensation in the case of animals destined for the food industry, nor in the case of animals used in research. Of course, disrespecting these animals' basic claims also results in a duty of compensation. As humans harm wild animals directly and indirectly in many ways and on a large scale, I decided to spell out this duty of compensation in the case of wild animals in particular. The results of this section can thus be partly extended to animals destined for the food industry and for research.

when attacked by a wild animal, I am justified in defending myself, even if this violates the animal's claim to avoid suffering and to continued existence. However, in some cases, we disrespect animals' basic claims willingly and intentionally. In these types of cases, we owe the affected animals some sort of compensation. For example, if we harmfully interfere in some wild animals' habitat by polluting it and thereby endanger their survival without any acceptable justification, then we have a *duty to repair*: we should clean the affected area and assist the animals until they can resume a self-determined life. And if we fail to do so, we cause these animals an additional wrong.

In practice, humans do provide assistance to wild animals they negatively affect, in some cases. For example, after the "Prestige oil spill" on the Galician coast of Spain in 2002, there was public outcry about its impact on wildlife, such as birds like guillemots, razorbills, and puffins. Consequently, a rescue and rehabilitation center was established where birds were gathered, cleaned, and treated before being released (Balseiro et al. 2005). However, such help is not yet systematically provided to animals who fall victim to human faults: many companies and governments fail to consider the plight of the wild animals they negatively impact.

However, humans also sometimes negatively affect wild animals in ways that are less obvious and thus less well recognized: humans often cause *direct but unintended harm* to wild animals (Fraser 2012: 736). For example, agricultural practices, such as plowing fields, have a detrimental effect on many wild animals who live in the fields. A further example is road traffic: many animals are hit by cars, or their habitats are destroyed by the construction of new roads. Furthermore, considerable harm is caused to birds by communication towers and buildings with windows. Pollution (such as the routine discharge of machinery waste oil from ships) and the use of chemicals also negatively affect many wild animals. Yet despite their highly negative impacts on wildlife, these types of disturbances often go unnoticed (Fraser 2012: 736–737).

Wild animals who are more likely to be victims of both intended and unintended harms can be considered particularly vulnerable groups. The fact that some of these harms are unintended does not play a role in the assessment of whether these harms are morally problematic or not. Commensurate to their increased vulnerability, these animals should receive more attention. For example, when government agencies are constructing new buildings or roads, they should give additional care to the

ways these endeavors may affect wild animals. As for agricultural practices, incentives could be given to subsidize farming practices which are less harmful to wild animals, or more research money could be devoted to studies on such topics.

A further important example of unintended harm caused to animals is anthropogenic climate change. Numerous publications have highlighted the disastrous impact of climate change on humans (one of the most recent being the Report of the Intergovernmental Panel on Climate Change IPCC 2021). However, the impact of climate change on animals has received less attention in the literature. This is problematic, as rising sea levels and weather extremes will negatively affect the lives of countless wild animals in the future. While some animal species may benefit from climate change, it has problematic effects on others. Yet—with a few notable exceptions (Palmer 2010; Pepper 2019; Rowlands 2021; Sebo 2021)—this topic is rather underdeveloped in the animal ethics literature.

I cannot develop here what compensation for climate-related harm to animals should look like in detail, as this would be a separate endeavor. A few words are nonetheless necessary. Moral agents have a duty not only to *mitigate* climate change (i.e., to take measures to address its causes), but also to *assist* animals who are victims of the effects of climate change. That is, to the extent that climate change jeopardizes animals' basic claims, we owe the affected animals assistance and aid. The specific assistance depends on the kind of wrongs the animals are likely to incur along with the type of claims that are at stake. For example, animals' claims to live a self-determined life and to express normal behaviors are violated if their territory is flooded as a consequence of climate change. In this case, if it is a viable possibility, relocation of the animals concerned could be discussed. Of course, special attention will have to be paid to potential negative consequences of such resettlement on the animals affected and on other animals. Other strategic tools to facilitate adaptation of wild animals to climate change include land and water conservation, animal rehabilitation, habitat restoration, natural resource management, along with better legislation and regulation (Mawdsley et al. 2009; Palmer 2021).

There are two ways to move forward from here regarding the harm that climate change causes wild animals. First, we are under the moral obligation to do more research on how to both mitigate climate change and assist wild animals adapt to a changing climate. Second, "we can make practical progress by advocating for moral and political standing for wild animals, so that we will have the social and political capital necessary for

taking the interests of wild animals into account as we recreate human societies in the face of climate change" (Sebo 2021: 61). To extend vulnerability language to wild animals and by describing them publicly as a particularly vulnerable group whose basic claims are likely to be overlooked may contribute to bringing about these changes.

Again, note that if I say that "we" are under a moral obligation, I have in mind those moral agents who have the power to positively influence the course of wild animals' lives and who are best placed to fulfill such duties. In the case of climate change, many humans benefit from past or current emissions, and thus owe wild animals a duty to mitigate the effects of climate change as well as adaptive measures if it becomes clear that animals will be negatively impacted. This means that moral agents are minimally under the duty to publicly talk about the effects of climate change on wild animals, and to support organizations conducting research on how to mitigate its effects and assist animals in their adaptation process.

7.4 Wild Animals as a Particularly Vulnerable Group

In this chapter, I have argued that wild animals hold basic claims—no less so than animals destined for the food industry and for research. I showed that wild animals' claims are often not given the weight they are due, and that wild animals therefore often qualify as a vulnerable group. There are two reasons for the heightened vulnerability of wild animals. First, many wild animals are particularly vulnerable because they are at increased risk of having their claims disrespected by humans—be it intentionally or unintentionally. Second, when humans disrespect animals' basic claims, we frequently neglect to provide the compensation and reparations these animals are due. In sum, wild animals are frequently at increased risk of being denied what they are entitled to. This problem is particularly acute for those species who tend to be overlooked, such as small animals, animals who prematurely die in high numbers (r-strategists), and animals who are deemed unattractive by the public or who fulfill no key function in the ecosystem. All these animals' claims are often not given due weight when it comes to decisions about land use, the effects of climate change, and after disasters.

A further problem is that wild animals are often not seen as individuals with their own lives but rather as members of a specific species, particularly

those animals who are deemed "invasive species" and thus regarded as a nuisance. Often, lethal conservation practices are used to limit their numbers, overlooking the fact that these animals are sentient individuals (Abbate and Fischer 2019; Wallach et al. 2020). Publicly describing wild animals as particularly vulnerable groups may change the way we perceive these creatures. It draws our attention toward the fact that they are often at increased risk of not being given what they are due, and that more protection and attention is needed when we are dealing with them.

From what has been said in Chaps. 5, 6, and 7, it follows that many groups of animals are particularly vulnerable. We may then be tempted to wonder: if so many groups of animals (and humans, for this matter) are particularly vulnerable, does the concept of vulnerability lose its meaning? And if so many groups are vulnerable, where should we start to reduce increased vulnerability? Should those particularly vulnerable receive priority? I turn to these questions in the next chapter.

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CHAPTER 8

Conclusion

This book set out to explore what vulnerability is for humans and for animals, and to establish why and when vulnerability matters from a moral point of view. The first goal was to present a definition of vulnerability for the domain of bioethics which would resolve the conflict in the literature regarding the *scope* of vulnerability. In particular, I investigated whether vulnerability is, as some have suggested, a property belonging to everyone by their very nature ("universal vulnerability"), or whether it is a property restricted to some individuals and groups in certain contexts who are in need of special protection and additional attention ("situational vulnerability"). I suggested that a viable account of vulnerability should reconcile these two views.

This book has aimed to contribute a more nuanced and detailed understanding of vulnerability to contemporary debates in philosophy, bioethics, and the vulnerability literature in general—that is, an understanding of vulnerability that is free from the difficulties of former definitions. I proposed that vulnerability is a matter of degree: all beings with interests can be considered generally vulnerable, yet some individuals, in certain situations, are more likely to have their interests unfairly considered and to consequently experience wrongful harms and mere wrongs. These individuals and groups should be regarded as *particularly* vulnerable in this specific context and should be afforded additional attention and special protection to receive what they are due.

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The second goal was to trace the ethical implications of situational vulnerability for the domain of (bio-)ethics in general and for the field of animal ethics in particular. That is, a substantial part of the book was devoted to the question of whether animals can be regarded as *particularly* vulnerable in certain situations or contexts, and to outline the moral implications of situational vulnerability for animals. I thus aimed to fill an important gap in the literature, as animal vulnerability and its moral implications have yet to be examined in-depth and systematically.

I have argued that vulnerability discourse is already established with regard to humans, and fulfills a specific role—that is, to orient our attention toward those individuals and groups in need of special protection and additional attention in specific situations. The description of a group as "particularly vulnerable" in a specific context thus has not only rhetorical force, but also normative weight: it shows that additional attention and potentially even special protection may be needed when dealing with certain groups, as the individuals of these groups run a higher risk of being denied what they are due.

My main suggestion has been that vulnerability discourse, so understood, can fulfill the same role for sentient animals. Indeed, the language of vulnerability can highlight those animals who are in need of additional attention and better protection because they are members of groups who are likely often denied what they are due. Extending the concept of vulnerability to animals, I argued, may positively influence how we think about and treat these creatures, by refocusing our attention on their claims and needs. At the same time, though, we should remain humble about what vulnerability language can achieve. To be sure, vulnerability discourse cannot work miracles; nonetheless, this language can fulfill the same function for animals as for humans—no more and no less.

In the following, I summarize the main results of the book in greater detail, and assess whether the goals set out in the beginning of this book have been reached. In a second step, I discuss several objections one could make against the arguments presented in this book, and offer tentative responses.

8.1 Summary

Chapter 1 introduces the topic of vulnerability language and stresses its importance. Chapter 2 presented three scenarios involving what we would likely deem vulnerabilities: the Tuskegee syphilis study, the separation of

refugees' children from their parents at the border between the U.S. and Mexico, and the BSE scandal in the U.K., which led to the (premature) killing of millions of cattle. The purpose of these case studies was to illustrate that we all probably have an intuitive understanding of what vulnerability means. However, when we attempt to properly define it, we quickly run into challenges, one reason being that vulnerability seems to come and exist in various forms.

In Chaps. 2 and 3, I examined what vulnerability is and suggested how we ought to understand it. I began by presenting two conceptions of vulnerability in the literature: universal or ontological vulnerability on the one hand, and situational or circumstantial vulnerability on the other. Some philosophers and bioethicists assume that vulnerability is a shared property of all humans (and sometimes animals as well)—that is, we are all vulnerable by our very nature. Others understand vulnerability as situational: they stipulate that some individuals are vulnerable in certain situations or contexts and should accordingly be afforded special protection and additional attention. These two conceptions of vulnerability are in tension—at first sight, they seem contradictory and irreconcilable. Indeed, the idea that vulnerability encompasses everyone *qua* their nature conflicts with the view that vulnerability is a property of only some individuals or groups. Moreover, this conflict has problematic consequences: it remains unclear whether vulnerability is a merely descriptive term, or whether it has normative pull. Not clarifying what vulnerability consists in may result in opposition to the idea that vulnerable beings should be afforded special protection and additional attention. After all, if all beings are vulnerable by their very nature, then how can special protection only for some be justified?

I noted that any convincing account of vulnerability must reconcile these two conceptions: we need a definition of vulnerability which encompasses universal vulnerability, but which can, at the same time, account for the situational vulnerability of some individuals or groups in specific contexts. Furthermore, the definition should be easily applicable to different cases and scenarios—that is, it should be formal and sufficiently general in scope. Finally, it should be able to explain why some vulnerabilities, but not others, are morally relevant and require action.

To achieve this goal, I argued in favor of an explicative definition—that is, a definition that respects some central uses of ordinary language, yet is stipulative about others. In a word, the definition of vulnerability presented in this book is *ameliorative*, insofar as it does not merely follow

ordinary language but rather outlines how we *ought* to use and understand the concept of vulnerability. Thus, one aim has been to propose a definition of vulnerability which *should* be used, not necessarily to describe one which currently *is* used in ordinary language. This ameliorative definition, in turn, should facilitate the identification of those individuals who are situationally vulnerable and thus have a claim to special protection and additional attention. I referred to these individuals and groups as "particularly vulnerable" (or as "individuals with increased vulnerability") throughout the book.

To arrive at such an account, I closely analyzed the term "vulnerability" along with sets of phrases involving "X is vulnerable to Y." I concluded that vulnerability ascriptions express that some Y *may* happen to X. That is, vulnerability expresses that some state Y has a certain likelihood, under certain circumstances, of manifesting itself. I inferred from this that vulnerability is a *dispositional concept*, concluding that three aspects must be distinguished and accounted for when defining it: the *reasons* why an object is vulnerable; the *conditions* under which vulnerability may appear; and the various *manifestations* of vulnerability.

These distinctions led to the definition of vulnerability presented in Chap. 3: *Vulnerable beings are individuals with either welfare interests or agency interests that may be frustrated by the individuals themselves, by external circumstances, or by other living beings.* The possession of welfare and agency interests is the *reason* why a being is vulnerable. These interests may be frustrated by individuals themselves, by external circumstances, or by other living beings—they represent *the conditions of manifestation*. Finally, the manifestations of vulnerability are justified or unpreventable harm, unjustified harm, and mere wrongs which do not entail any harm. I argued in favor of the view that manifestations of vulnerability are externally caused—that is, vulnerability does not inhere within things or individuals; rather, entities are caused to manifest a certain state by external circumstances or actions, in relation to and in interaction with their environment.

Some manifestations of vulnerability simply cannot be prevented, such as accidental injuries, harm resulting from natural catastrophes, or being attacked by someone who is not responsible for their actions. These incidents all diminish welfare or agency and may result in harm. However, if nobody had the *power* or *ability* to prevent these events, then they cannot be considered *wrongful* harms.

Some manifestations of vulnerability, though, could and *should* have been prevented. In such cases, individuals experience *wrongful harm* or *mere wrongs without any harm*. Regarding wrongs without harm, I described cases in which an individual's welfare or agency interests are unjustifiably disregarded by another moral agent (e.g., due to prejudices and stereotypes), but where the individual is not actually made worse off. In such cases, the person is wronged although she does not experience any harm. Examples are breaches of confidentiality or disrespect for someone's autonomous decision-making in the healthcare sector which do not result in any negative consequences, or which may even improve the individual's welfare. From a moral point of view such actions are wrong, even though they do not necessarily result in harm or make someone worse off.

Furthermore, I can wrong someone without being in her vicinity. In many cases, I have the power to positively or negatively affect a person's interests even if she is located far away from me. In such cases, I still often have the capacity to influence the course of a situation, for example, if I could assist an individual by providing money or time. Consequently, I may have a *duty* to justly consider the interests of some individual, even if I do not know her personally. Indeed, distance does not matter, from a moral perspective. If we have *duties* toward individuals, we are no longer merely talking about their *interests*—they have legitimate *claims.*

These considerations allowed me to specify who is *particularly vulnerable* in certain situations: some individuals are at comparatively higher risk of having their claims intentionally or unintentionally disregarded, overlooked or unfairly considered. As a consequence, they are more likely to incur wrongful harm or mere wrongs. The reasons for these unjustified manifestations of vulnerability may include ignorance of the specific needs of a population (e.g., due to language barriers or lack of interest in the specific group), implicit or explicit biases and prejudices, discriminatory attitudes, conflicts of interest, and so on. The individuals concerned are in need of additional attention and special protection in order to obtain what they are due.

To lower the risk of unjustifiable manifestations of vulnerability, we need to identify those individuals in specific situations who run a higher risk of not receiving what they are due. In practice, this means that we must think about the *groups* we tend to overlook, neglect, and forget, but also recognize which of their *claims* we tend to ignore. The question then becomes: When is vulnerability so acute that it warrants special protection

and additional attention? Admittedly, this is often a matter of degree, and there may be a gray zone. Nonetheless, in many situations, there are some groups who may more often be victims of stereotypes or who tend to be ignored, forgotten, and overlooked. In these cases, steps should be taken to reduce their risk of incurring unjustified harm and mere wrongs.

I concluded that there is only one type of vulnerability encompassing everyone who has interests. But, depending on the specific situation and the groups involved, vulnerability has different likelihoods of manifestation: a change in setting may render some previously only generally vulnerable individuals particularly vulnerable. The controversy as to whether vulnerability is a property of all or of only some beings can thus be resolved. Any account of particularly vulnerable individuals in specific situations who are in need of special protection and additional attention must be embedded within a broader conception of universal vulnerability.

After these considerations, we can come back to the examples with which I started out Chap. 2, and answer the question of what rendered these groups particularly vulnerable in their specific contexts. The individuals concerned were all members of groups that were (and probably still are) comparatively more likely to be denied what they are due. In the case of the Tuskegee syphilis study, a poor and oppressed group—Black Americans—were enrolled in the study. Among other problems with the study, the participants were not given the necessary information about the study and its aims, nor were they informed about a treatment which became available during the study. The legitimate claims of the men enrolled in the study, as well as the claims of their family members, were unfairly considered due to racist prejudices and attitudes. As for the case of the children separated from their parents at the border between the U.S. and Mexico, the specific interests and basic claims of the children of refugees and immigrants were ignored (e.g., the children were separated from their primary caregivers, and they were not given access to education). Finally, in the case of cattle during the BSE scandal in Great Britain, we can now see that these creatures were wronged in different ways. They had not been given the type of food they needed to thrive (their feed was complemented with meat-and-bone meal), and once the disease outbreak happened, they were summarily killed—isolation and medical treatment were not provided (or even considered), a situation we would find inacceptable in the case of humans. The cattle were treated this way precisely because they were animals: for many people, animals have a merely economic value; their lives do not count for their own sakes. Our treatment

of animals is still determined, in many cases, by *speciesism*—a disadvantageous treatment or consideration of those beings who do not belong to a particular species (Horta 2010).

These considerations reveal an advantage of my account of vulnerability: it is *context-sensitive*. It is *formal* enough to be applied across different situations, groups, and even *species*. In Chaps. 4, 5, 6, and 7, I explored, in greater detail, the potential of my account of vulnerability for animals. I discussed whether the concept can be meaningfully extended and applied to animals and considered what it adds to debates in animal ethics. In Chap. 4, I inquired whether animals can fulfill the conditions of vulnerability ascriptions, contending that sentient animals do possess welfare interests, and that some animals also have agency interests (which can potentially be frustrated). Examples of the latter type of interests are caring for and protecting offspring, advancing in a social hierarchy, and the fact that some animals want to freely choose where they go and with whom they interact. Using the Five Freedoms of Animal Welfare as a basis and further adapting and complementing them, I developed a list of basic welfare and agency interests that most animals likely share

1. an interest in the absence of hunger and thirst;
2. an interest in the absence of suffering (i.e., absence of pain, injury, and disease);
3. an interest in expressing and pursuing normal behavior;
4. an interest in the absence of discomfort, fear, and distress;
5. an interest in self-determination; and
6. an interest in continued existence.

The question is then whether these interests have the status of *legitimate claims,* involving corresponding *duties* of moral agents. To this end, I assessed the extent to which animals count from a moral perspective. I defended the view that moral agents owe it *directly* to sentient animals to take their most fundamental interests into account—these duties are not, for example, owed to their human companions or to humanity in general. Moreover, I maintained that animals' fundamental interests should be considered in accordance with the principle of equal consideration by those holding power over the satisfaction of these interests: similar interests should have equal weight, regardless of their bearer's species. I thereby rejected speciesism, a form of discrimination based on species-membership.

In practice, these basic interests of animals have the status of *legitimate claims*, provided that a moral agent can be identified who has some power over their satisfaction. Consequently, moral agents must take the legitimate claims of animals into consideration by fairly applying the principle of equal consideration—that is, weighting like claims alike. If they fail to do so, the animals concerned may incur unjustified harm. Importantly, these basic claims of animals are not necessarily absolute, nor need they be satisfied in all cases. In some circumstances, they can be outweighed by more important claims. In other words, the claims listed here are *pro tanto*, rather than *pro toto* claims.

The remaining chapters applied my definition of vulnerability to three groups of animals, specifically: animals used for food (Chap. 5), research animals (Chap. 6), and wild animals (Chap. 7).

In Chap. 5, I discussed whether *using* and *killing* animals for food can be ethically justified, or whether we should deem animals used for food a particularly vulnerable group. In a nutshell, I concluded that animal products which are harmfully produced are often—but not always—morally problematic. As for whether painlessly killing happy animals is morally permissible, I argued that killing animals for food is ethically problematic in developed Western societies which have plant-based alternatives to meat products readily available. Indeed, animals' claim to continued existence should not be overridden to satisfy a mere gustatory preference. One might think that these arguments result in a "principled veganism"—that is, the view that seeking a vegan lifestyle is morally obligatory. I deny this implication, showing that not all uses of animals are necessarily exploitative: consuming animal products can be compatible with respect for animals' basic claims, in some cases. Furthermore, I showed that farmed animals' dependency on humans does not necessarily imply that they are particularly vulnerable: ideally, moral agents are capable of respecting the claims of those who are dependent on them. Finally, I concluded that we should nonetheless recognize many groups of animals commonly used for food as particularly vulnerable, and increase their protection accordingly.

Chapter 6 examined whether research animals should be deemed a particularly vulnerable group, or whether the harm they incur during research should be considered ethically justified. I showed that research animals are not sufficiently protected by currently implemented research guidelines and principles. These research principles are sometimes not respected in practice, and remain insufficient from a moral perspective. As a consequence, a large number of animals can be deemed particularly vulnerable

in research settings nowadays: animals' legitimate claims are more likely to be unjustly considered merely because they are animals. In a word, current animal research practices are often speciesist. I then turned to the question of what animal research that respects animals' claims would look like. For animal research to be ethical, I proposed, it must respect animals' basic claims (e.g., bodily integrity and continued existence). This can be done by rendering animal research more similar to research with humans. In this vein, I explored how the requirements of social value, scientific validity, independent review, fair subject selection, favorable risk-benefit ratio, informed consent, and respect for research subjects can be fruitfully applied to animal research.

Finally, in Chap. 7, I turned to the question of whether wild animals should be regarded as a particularly vulnerable group. This topic may have come as a surprise. After all, one may regard the manifold forms of harm encountered by wild animals in their daily lives as unpreventable and thus morally unproblematic, as their origin seems to lie with nature, not with human actions. However, I contended that naturally occurring suffering in the wild is not necessarily justified from an ethical perspective. Wild animals can also hold legitimate claims against moral agents, I argued, although humans often fail to respect or even consider these claims. Many humans directly negatively affect wild animals, or cause them indirect harm without a second thought. In addition, while humans often have the ability to improve the lives of wild animals (e.g., by assisting or rescuing them), we often fail to do so. I supported the view that humans sometimes owe positive duties of assistance to wild animals. This does not necessarily imply that humans have to immediately intervene in nature to stop all forms of harm (e.g., predation), as such interventions would likely come at too high a cost for both humans and animals. Nonetheless, moral agents—individually and collectively—are not exempt from conducting research on how to improve wild animals' life and health or making efforts to respect wild animals' basic claims. Furthermore, I proposed that if moral agents violate wild animals' basic claims without an acceptable justification, then we owe the animals concerned some duty of compensation and reparation. For example, if humans pollute animals' habitat, then we have a duty to clean and restore it. But, in practice, this rarely happens. Consequently, wild animals can frequently be considered a particularly vulnerable group: their claims seldom receive the attention they are due. Humans are likely to ignore and overlook wild animals' fates, thinking that they fall outside our moral responsibility. On the contrary, humans

must change the way we think about wild animals: if wild animals are considered a particularly vulnerable group, they can hopefully benefit from the special protection and additional attention they need to have their legitimate claims ultimately respected.

Importantly, the focused discussions of these three different groups of animals—animals used for food, research animals, and wild animals—mostly served to illustrate how to apply my account of vulnerability. It is possible, even likely, that other animal groups are particularly vulnerable, in various contexts. Think, for example, about animals in captivity (e.g., in zoos), who cannot live out species-typical behavior due to a lack of space and who depend on humans for their survival. Now imagine that a disaster hits, such as a flood or a war. In February 2022, Russia invaded Ukraine. This event was not only devastating to humans (it led to the largest refugee crisis in Europe since the Second World War), but it has also brought enormous suffering to millions of animals. While many Ukrainians fled their homes with their companion animals (such as cats and dogs), countless other animals had to be left behind. The situation is likely dire for animals in barns, research laboratories, and zoos. These animals depend on human care for their survival and well-being, yet buildings with animals were often bombarded, leaving animals buried in rubble or burned in fires. Some zoos ran out of food for their animals, while others tried to evacuate animals to neighboring countries. In war, not only are certain human groups particularly vulnerable (e.g., the elderly and the physically impaired who cannot easily flee), but also many groups of animals: their fates tend to be forgotten, overlooked, and denied due consideration. However, if animals count morally for their own sake, then they should also count in times of crisis and be considered for humanitarian rescue actions (Milburn and van Goozen 2021; Singer and Todorchuk 2022). By framing not only humans but also some groups of animals as particularly vulnerable in conflict situations, we raise awareness about their plight and their legitimate moral claims.

Various steps can be taken to lower the risk of unjustified manifestations of vulnerability. Recall the examples in the beginning of Chap. 1 regarding vulnerabilities during the COVID-19 pandemic: healthcare providers, children, and people who lost their income due to a lockdown. What we should do about these individuals' risk of incurring unjustified harm or mere wrongs depends on their specific situation and which of their claims are likely to be ignored or unfairly considered. Since vulnerability is context-dependent, so must responses to vulnerability be determined on a

case-by-case basis. Special protection and additional attention can require different kinds of actions and measures, depending on the situation. In the case of healthcare providers, personal protective equipment must be organized to protect them against COVID-19. In the case of school children deprived of access to education because of the pandemic, online education must be provided. And in the case of people losing their income because they are obliged to stay at home, monetary compensation may be needed.

In the case of animals, a major reason for their being at risk of having their interests unjustly considered is the influence of speciesist prejudices and attitudes. Therefore, a first general step toward diminishing the manifold wrongs animals are likely to incur would be to educate people about speciesism and the precarious situations of many animals (whether under human care or in the wild). More attention should be paid to their claims, so that they can ultimately receive what they are due.

Following this overview of the book's main arguments and ideas, I can assess whether the account of vulnerability presented here fulfills the conditions outlined at the beginning. I submit that it does resolve the conflict in the literature regarding the scope of vulnerability. Indeed, the definition of particularly vulnerable individuals in need of special protection is embedded in a broader conception of vulnerability—that is, vulnerability as a property of all beings with certain types of interests. Furthermore, since my definition is both formal in scope and context-sensitive, it can be applied to different domains, such as medical research, healthcare, and humanitarian crises. Moreover, as discussed, it can be extended to various groups of animals. Describing specific animal groups as particularly vulnerable turns our attention toward their fates and reminds us that we should do something to help or protect them. Finally, by distinguishing among different manifestations of vulnerability, I showed why some vulnerabilities require actions (such as in the form of special protection and additional attention), while others do not: some types of harm are morally unproblematic or simply unpreventable; others could—and should—be prevented.

8.2 Objections and Outlook

Some questions may have remained unanswered so far, and some potential challenges and objections to my account of vulnerability may still be open. I address some of them here.

First, one might object that the definition of vulnerability proposed in this book is eliminativist: insofar as it can be reduced to other concepts and terms, it is not substantive or explanatory in its own right. Be that as it may, this objection is not particularly problematic. Even if we reduce the notion of increased or particular vulnerability to other terms or expressions, such as "increased likelihood of having one's legitimate claims disregarded" and "being at higher risk of incurring unjustified harm," the concept of vulnerability can still fulfill an important role and function—namely, highlighting those individuals in need of more attention and special protection, in specific contexts. The crucial function of vulnerability discourse is thus to "serve as a very useful means of marking something out for special attention" (Wrigley 2015: 485). This is a rather pragmatic function: vulnerability language serves as a type of warning or signal and points us toward those in need of special protection and additional attention. Moreover, the account of vulnerability proposed here does not need to cover all that we mean by vulnerability in everyday language. As outlined earlier, my aim has been to put forward an *ameliorative* account of vulnerability—that is, to suggest how we *ought* to understand vulnerability, rather to describe how the term is commonly used.

Another potential concern with my account of vulnerability is related to priority-setting. It is important to note that vulnerability does *not* necessarily imply priority. For instance, during the COVID-19 pandemic, there were often not enough hospital beds, medication, and healthcare professionals to treat all the patients. From an ethical viewpoint, we should prioritize those patients who are most likely to survive thanks to medical treatment and who are at the same time likely to die without treatment (Singer 2011: 205). However, this does not necessarily mean that the patients in question are *particularly vulnerable*. The particularly vulnerable beings in a specific situation are those whose claims we tend to forget, overlook, or disregard. As a consequence, they should be afforded special protection and additional attention. Yet they do not necessarily need to be prioritized for medical treatment, for example.

As shown throughout Chaps. 5, 6, and 7, not only humans but also many animals can be deemed particularly vulnerable in specific situations and contexts. The possibility of extending vulnerability discourse to animals in general might arouse skepticism. As Carol Levine et al. noted in the case of humans, "[i]f everyone is vulnerable, then the concept becomes too nebulous to be meaningful" (Levine et al. 2004: 46). If we extend the concept of vulnerability to animals, as suggested here, this problem becomes even more acute: Will the concept of vulnerability become void

and meaningless if we extend it to animals by describing them as particularly vulnerable and in need of special protection and additional attention?

Two points are noteworthy here. First, who is particularly vulnerable in a specific situation is context-dependent. Not all groups who, at some point, qualify as particularly vulnerable remain so *at the same time and in the very same situation*. This is a specific advantage of my formal and context-sensitive account of vulnerability. Second, and more importantly, if many groups of humans and animals are particularly vulnerable, this does not indicate a weakness within the concept of vulnerability; rather, it points us to a *problem with how certain groups of humans and animals are likely to be treated*. Indeed, prejudices and stereotypes are deeply entrenched in many societies, and as a consequence, many groups are forgotten, overlooked, or willfully ignored.

Animals can suffer from the very same mechanism: speciesist prejudices are highly prevalent in most societies. Many humans are far from treating animals as they should be treated (with the exception of some domesticated animals in some societies). Therefore, most groups of animals are likely to not be given what they are due. The problem, then, is not that the concept of vulnerability is too broad—the problem is that widespread speciesist practices deprive so many animals of their due. The more we respect the basic claims of domesticated animals, research animals, and wild animals, the less vulnerable they will become. In turn, our attention will probably have to switch to other groups and species which remain particularly vulnerable in specific situations: animals who are regarded as mere nuisances, disease-carriers, or pests and thus often incur many forms of morally problematic harms; animals who may be forgotten or ignored during disasters; and animals who will become victims of climate change.

What can we do to reduce vulnerability? The more we take concrete steps to diminish implicit and explicit biases and the more we carefully analyze certain situations to identify those individuals and groups who are at a higher risk of incurring unjustified forms of harm and wrongs, the more we reduce the risk of unjust manifestations of vulnerability in the case of humans and animals.

While currently many, if not most, animal species can be considered particularly vulnerable, this situation will change as more animals are given their due. If we truly respect animals' basic claims without any speciesist prejudices and attitudes, fewer groups of animals will be particularly vulnerable. The concept of animal vulnerability can therefore unfold its true force and potential once we start to treat more animals as we should—commensurately with what they deserve.

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