JEFF SEBO

SAVING ANIMALS, SAVING OURSELVES

why animals matter for pandemics, climate change, and other catastrophes

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For Dale

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Preface

When I started work on this book, we lived in a very different world. I signed a contract to write this book in 2017, and I spent about a year researching this topic while finishing work on two related books. I then spent 2018 writing a first draft and 2019 writing a second draft. Finally, in late 2019 and early 2020, three things happened at roughly the same time: I started working on the third draft of this book, and the Australia bushfires and COVID-19 started dominating international headlines. So, while the book draws from years of work, I wrote the current draft over the past year, when many of us were working from home and the world was finally starting to reckon with the complex relationships among human, nonhuman, and environmental health. As you will see, the final draft is clearly a product of this context.

I live in New York City, and COVID-19 hit our city hard and fast. During the first three months of the pandemic, our city had approximately 203,000 confirmed cases, with a 9.2% overall death rate and a 32.1% death rate among hospitalized patients.[1] My partner Maryse and I were paying close attention to these statistics because Maryse has health conditions that make them particularly vulnerable to the virus. By late February, we were working from home. By early March, we were stocking up on food, soap, and toilet paper. By mid-March, we were bartering spare Lysol wipes for spare N-95 masks. By late March, we were researching which cities had the most hospital beds per capita so that we could estimate where Maryse would be least likely to be denied care. It was a surreal experience.

More generally, as COVID-19 spread all over the world, we were all confronted with the profound injustices in our current social, political, and economic systems. As scared as Maryse and I were, for ourselves and our other loved ones, we also knew that we were relatively safe. We both had jobs that we could do from home, and we also had all the other advantages that come with our relatively privileged

socioeconomic statuses. Many other people in our city, particularly low-income people, were much less lucky. They faced increased risk not only of the direct effects of COVID-19 but also of indirect effects such as income and housing insecurity. As with many crises, the pandemic was a shock to the system that both introduced new threats and amplified existing threats and disparities.

Then, in May 2020, the killing of George Floyd, a 46-year-old Black man, by Minneapolis police officer Derek Chauvin sparked outrage and led to protests all over the world.[2] Along with the pandemic and election, the Movement for Black Lives created an energy in New York City that is hard to put into words. The city was filled with the sounds of marches, sirens, and, for much of the summer, seemingly professional-grade fireworks. The effect of all this activity was a sense of hope that we might actually be able to bring about positive change, combined with a sense of anxiety that was partly targeted—on COVID-19, anti-Black racism, state violence and neglect, and more—and partly generalized. It was a difficult time, especially for people who were subject to all of these threats at once.

Writing a book on animals, pandemics, and climate change during a period of such profound disruption was a complicated experience. On one hand, the book gave me an outlet for everything I was thinking and feeling about the state of the world, and it also gave me an opportunity to situate these thoughts and feelings within a moral and political framework that attempted to make sense of them all in an integrated way. On the other hand, the book also made it hard for me to escape these topics; I was thinking about pandemics, climate change, and human and nonhuman suffering and death when I was reading, writing, speaking, teaching, and, eventually, sleeping. Then again, for someone who was lucky enough to survive the year relatively unscathed, that might have been appropriate.

Writing about this topic during this period was complicated for another reason as well, which is that this year provided us with so many sources of both optimism and pessimism about our prospects for change. On one hand, this year underscored the tractability of these problems. More than ever before, people were discussing why animals matter for pandemics and climate change and why pandemics and climate change matter for animals. People were also working to address

these issues in a wide range of ways. In 2020, China banned the trade and consumption of wildlife, Singapore approved the trade and consumption of cultivated meat, and people raised hundreds of millions of dollars for wildlife protection in response to the Australia bushfires.[3] This all happened faster than I expected, and it gave me hope.

On the other hand, this year also underscored the limits of our knowledge, power, and political will. Even during a global crisis that made these problems so salient, we discussed them much less than we should have, and we also did much less about them than we should have. There appear to be many reasons why. Addressing these problems is hard to do well when we lack the necessary social, political, and economic infrastructure. Also, when so many humans are unable to meet their own basic needs or unwilling to make even minor sacrifices to protect themselves, their families, and their fellow citizens from a deadly virus, can humans really be expected to make more substantial sacrifices to protect distant strangers, including members of other species, nations, and generations, as well?

My experience of these tensions this year both shaped, and were shaped by, the ideas that I developed in this book. This book argues that our treatment of animals is harming us all, that we have a responsibility to reduce and repair these harms, and that we have a responsibility to work within our limitations as we do. It also argues that doing this work well requires thinking pluralistically, by considering welfare, rights, virtues, and relationships, as well as thinking holistically, structurally, and comprehensively, by considering many problems at once, considering the root causes of these problems, and considering both the direct and indirect effects of these problems. While much more is needed as well, I hope that this discussion can be useful for our thinking about where to go from here, and how to get there.

Acknowledgments

This book draws from my work on many projects, including, but not limited to, *Chimpanzee Rights*; *Food, Animals, and the Environment*; "Activism"; "All We Owe to Animals"; "Animals and Climate Change"; "Consequentialism and Nonhuman Animals"; "Effective Animal Advocacy"; "The Ethics and Politics of Meat Taxes and Bans"; "The Ethics and Politics of Plant-Based and Cultured Meat"; "Kantianism for Humans, Utilitarianism for Nonhumans? Yes and No"; "Moral Circle Explosion"; "The Moral Problem of Other Minds"; "Multi-Issue Food Activism"; "One Health, COVID-19, and a Right to Health for Human and Nonhuman Animals"; and "Wild Animal Ethics."[1] Thanks to my co-authors, editors, and referees on these projects for substantially improving my thinking about these issues.

I have many other people to thank as well—many more than I can include here. Most importantly, thanks to Dale Jamieson for your advice and mentorship on this project and in general, as well as for modeling what rigorous scholarly work on animal and environmental ethics looks like at its best. Thanks to Peter Singer for teaching me the importance of using evidence and reason to do the most good possible, and thanks to Lori Gruen for teaching me the importance of doing this work contextually, holistically, and structurally. I have also learned more than I can express from many of my colleagues at NYU; in philosophy, animal studies, and environmental studies; and in the human rights, animal rights, and environmental protection movements. While this might be a single-author book, it is the product of many influences.

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Thanks to Jo-Anne McArthur for taking the cover photo and allowing me to use it for the book. This photo, titled "Hope in a Burned Plantation," depicts an Eastern Grey kangaroo and her joey in the aftermath of a fire in Mallacoota, Victoria. The 2019–2020 Australian bushfires impacted countless nonhuman animals, killing at least 3 billion and harming many more. Although these two animals survived the initial fires, they might or might not have survived the many other threats that the fires introduced or amplified, including the threat of hunger, thirst, illness, and injury. This photo, like many others in animal photojournalism, is a much-needed reminder that human and nonhuman fates are linked in the Anthropocene. Our research, advocacy, and policy should reflect that reality much more than they do.[2]

On a personal note, thanks to Sheryl Sebo, Eric Sebo, and Marc Sebo for all our calls over the past year, and for promising to be the first three people to preorder a copy of the book. Thanks to Maria Lechner for all our calls over the past year as well, and for asking about the book, expressing support for the book, and discussing ideas that matter for the book in so many of them. Thanks to Maryse Mitchell-Brody for contributing to this project in many ways, from supporting me emotionally to challenging me intellectually and sharpening my arguments. Finally, thanks to Smoky Sebellody for contributing to this project in many ways as well, from serving as a laptop stand/weighted blanket to reminding me of the importance of meals, walks, play, and sleep. I could not have written this book without you.

1
Introduction
Saving animals, saving ourselves

1.1. The drowning fawn

Suppose that you build a pool in your backyard, and you cover it up with a tarp. The next morning, you look outside and see, to your horror, that a fawn has fallen through the tarp and is drowning in the pool. (A family of deer lives in the woods behind your house, and they regularly walk into your yard through a gap in your fence.) You quickly consider your options. On one hand, if you save the fawn, then the fawn will survive and their family will suffer less. But you might ruin your new outfit, and you might also be late for work. (We can assume that you know how to rescue the fawn and would not be in any personal danger.) On the other hand, if you do nothing, then the fawn will die and their family will suffer more. But you will preserve your new outfit and be on time for work. The question is: Should you save the fawn?[1]

Many people would say that the answer to this question is yes, though different people would say that for different reasons. Some people would say that you should save the fawn simply because the fawn is suffering and dying, and you can save them without sacrificing anything significant. Granted, saving the fawn would involve some sacrifice. You might have to spend money replacing your outfit, and you might also have to spend time, energy, and social capital rescheduling your meeting. But we can suppose that none of these costs would be life-altering for you, and that they pale in comparison with the cost of dying or losing a family member. So, on this view, you should save the fawn simply because, if you can prevent unnecessary harm without sacrificing anything significant, then you should.

In contrast, other people would say that you should save the fawn not only because the fawn is suffering and dying and you can save them

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without sacrificing anything significant, but also because you are complicit in what happened to them. You knew that these deer regularly walk through your yard, and you should have considered that when you were building the pool, for instance by repairing your fence to keep the deer out. Since you neglected to do that, you now have a responsibility to attempt to mitigate the harm that you caused. So, on this view, you should save the fawn not because you should *prevent* unnecessary harm when you can, but rather because you should avoid *causing* unnecessary harm when you can, and, when you do cause unnecessary harm, you should attempt to reduce or repair that harm.

People tend to think that the first view is more demanding than the second, because it implies that we should attempt to prevent unnecessary harm whenever we reasonably can, whether or not we participated in causing that harm. For example, suppose that, instead of seeing a fawn drowning in a pool in your yard, you see a fawn drowning in a pond in the woods. Should you save the fawn? According to the first view, we might think that the answer is yes. As in the first case, this fawn is suffering and dying, and you can save them without sacrificing anything significant. In contrast, according to the second view, we might think that the answer is no. Unlike in the first case, you are not complicit in this incident. So while you might or might not be *permitted* to save this fawn, you are not *required* to do so.

But I think that matters are more complex than that in real life. We now live in the Anthropocene, a geological epoch in which human activity is a dominant force on the planet. Every year, humans harm and kill trillions of nonhumans directly, through activities such as factory farming, deforestation, and the wildlife trade. We also harm and kill trillions of nonhumans indirectly, through the impacts of our development, consumption, and pollution. More generally, our treatment of other animals is contributing to pandemics, climate change, and other global threats, and these threats are, in turn, contributing to suffering and death for humans and nonhumans alike. Much of this harm is foreseeable and avoidable. But we look the other way, and we allow the harm to increase with each passing year.

The Anthropocene complicates the distinction between natural harm and human-caused harm, and, as a result, it also complicates

the distinction between the duty to prevent harm and the duty to merely avoid causing harm. In effect, humans are turning the entire world into our backyard, building a pool, and ignoring the gap in our fence, and trillions of animals are drowning as a result. In this kind of situation, we morally ought to help animals all over the world where possible according to *both* of these views. After all, nonhumans are suffering and dying all over the world, humans are increasingly complicit in this harm, and humans increasingly have the power to address this harm without sacrificing anything significant. So, we increasingly have a responsibility to address this harm, where possible.

When presented with this kind of argument, we have three general options. First, we can reject the ethical premise, by denying that we have a moral responsibility to either prevent unnecessary harm in the world or, at least, reduce and repair the unnecessary harm that we cause where possible. Second, we can reject the empirical premise, by denying either that human activity is causing an increasingly high amount of unnecessary nonhuman suffering and death or that we have the power to prevent, reduce, or repair increasingly much of this suffering and death. Third, we can accept the conclusion that follows from these premises, by accepting that we do, in fact, have a moral responsibility to prevent, reduce, or repair an increasingly high amount of nonhuman suffering and death, where possible.

My goal in this book is to explain, in general terms, why I think that accepting the conclusion is the best of these three options, and to examine, in general terms, what accepting the conclusion might require in practice. I will argue that taking responsibility for an increasingly high amount of nonhuman suffering and death is necessary and possible—but also difficult. It will require radical social, political, and economic change, and it will also require us to confront the limits of our knowledge, power, and political will. As we all know, reducing and repairing the harm that we cause is already hard when all we consider are impacts within our own species, nation, and generation. It will be much harder when we consider impacts in other species, nations, and generations as well—as recent events make all too clear.

1.2. The year of global crisis

In late 2019, a novel coronavirus reportedly originated in China and spread globally. Some countries responded better than others, through aggressive testing, contact tracing, and physical distancing. But even for many of the countries that responded well, the pandemic was deadly and disruptive. For many of the countries that responded badly, the pandemic overwhelmed hospitals, killed hundreds of thousands, and brought a wide range of important social and economic activities to a halt. At the time of writing, about 115 million humans have been infected, about 2.5 million humans have died, and the spread is ongoing.[2] This pandemic reveals how interconnected and vulnerable we are. As long as the threat exists anywhere, it exists everywhere. We still have no idea what the world will look like on the other end.

While much is still uncertain, many people believe that COVID-19 originated in bats, then spread to other animals at a wildlife farm in Southern China, then spread to humans in a market in Wuhan.[3] Whether or not we accept this story, we know that our treatment of animals increases the risk of pandemics in multiple ways. When we destroy wild animal habitats, we increase the risk that zoonotic diseases will spread. When we sell animals in live markets, we do the same. And when we use antimicrobials in factory farms, we create ideal breeding grounds for antimicrobial-resistant pathogens. The 2019 COVID-19 pandemic, the 2009 H1N1 pandemic, the 2003 SARS epidemic, and other such outbreaks all might have resulted from practices that involve harming and killing animals in these ways.[4]

The COVID-19 pandemic is also increasing harm to nonhuman animals in other ways. Not only can COVID-19 infect many nonhumans, but it can also harm and kill many nonhumans indirectly, via changes in human activity. For example, during a pandemic, many humans abandon, "euthanize," or "exterminate" nonhumans, either because we see them as "pests" or because we lack the ability to care for them. Many humans also harm and kill nonhumans for food, medicine, or income, often unnecessarily. More generally, we also have to ask: How might this kind of crisis affect future animals? For instance, when physical distancing alters interactions between humans and wild animals,

which species will expand and contract as a result, and what will that mean for individual animals?

In addition, as COVID-19 was starting to spread, Australia was sustaining devastating bushfires.[5] The bushfires burnt about 72,000 square miles, destroyed thousands of buildings, killed at least 28 humans, and injured many more. The indirect impacts were significant as well. Australia lost billions of dollars due to decreased revenue and increased expenditures. Many humans suffered the health effects of poor air quality and social and economic disruption. And the bushfires released hundreds of millions of tons of carbon dioxide into the atmosphere, increasing Australian emissions by more than 50% from 2018 to 2019. And since Australia depends on forests to capture carbon dioxide and now has less forested land than it did before, we can expect emissions to be higher in the coming years as well.[6]

In the aftermath of the Australian bushfires, scientists concluded that climate change likely played a role. The conditions that caused the bushfires to spread, such as record heat and dryness, are at least 30% more likely in a world with climate change.[7] Of course, this does not mean that climate change definitely played a role. Given the nature of climate change, we can never know for sure. But it does mean that climate change might have played a role. More importantly, it shows us what we can expect in the future. We know that climate change will increase the frequency and intensity of extreme weather events such as bushfires. So, when we see more and worse such events in the future, we can know that climate change played a role in this pattern, whether or not we can detect that role in any particular case.

The Australian bushfires also increased harm to nonhuman animals, killing at least three billion animals directly. Animals such as koalas were especially at risk, since their normal response to threats—climbing to the tops of trees—left them vulnerable during the fires. As a result, an estimated 25,000 koalas died.[8] This kind of crisis can also harm animals indirectly, by forcing them to migrate in search of food, water, or shelter, and subjecting them to increased risk hunger, thirst, illness, injury, or violence from either humans or other nonhumans. As before, we also have to ask: How might this kind of crisis affect future animals? For instance, when a region loses many acres of forested

land, which species will expand and contract as a result, and, once again, what will that mean for individual animals?

COVID-19 and the Australia bushfires are only two of the many health and environmental threats that the world is currently facing. We are facing many others as well, ranging from excessive natural resource consumption to excessive land, water, and air pollution. More generally, health and environmental threats are only two of the many kinds of threat the world is currently facing. Other threats include asteroids and comets, artificial intelligence, and biological, chemical, and nuclear war. The world is also, and relatedly, reckoning with long histories and legacies of racism, sexism, classism, ageism, ableism, speciesism, and other oppressions. Together with an increase in polarization and authoritarianism, these challenges make it hard for us to work together to solve even simple problems.

Even in the best of times, it might seem like a luxury to attempt to expand our moral and political circle, by considering our impacts on a wider range of individuals than we currently do. And these are very much not the best of times. Yet we need to attempt to expand our moral and political circle anyway. We are increasingly harming and neglecting individuals not only within our own species, nation, and generation but also across these categories. Moreover, these impacts are all linked, not only with each other but also with our basic social, political, economic, and ecological structures. We need to work to understand these impacts and the relationships among them. Otherwise we will address neither the root causes of our problems nor the needs of many of the most vulnerable victims, including other animals.

1.3. A perfect moral superstorm

I will argue in this book that animals matter for pandemics, climate change, and other human-caused global threats. In particular, human use of nonhumans is contributing to these threats, and these threats, in turn, are contributing to nonhuman suffering and death. As a result, I will argue, we have a moral responsibility to include animals in health and environmental advocacy and policy, by reducing our use of animals as part of our mitigation efforts and increasing our support for

animals as part of our adaptation efforts. I will also consider how this issue interacts with a wide range of practical issues such as education, employment, social services, and infrastructure, as well as with a wide range of theoretical issues such as well-being, moral status, creation ethics, and population ethics.

My argument in this book will adapt and extend recent discussions of One Health and the Green New Deal. These frameworks affirm that human, nonhuman, and environmental health are linked, and that we need to address human, nonhuman, and environmental needs in an integrated manner. They also affirm that our health and environmental needs are connected with a broader set of social, political, and economic needs, such as the need for reliable access to food, water, shelter, and other basic goods. Thus, they affirm, mitigating and adapting to the effects of pandemics and climate change requires more than increasing resilience against the *direct* effects of these threats. It also requires increasing resilience against the *indirect* effects, for instance by expanding access to food, water, shelter, and other basic goods.

I will argue that this reasoning extends to other animals. We are currently, through our use of animals, creating and amplifying threats for humans and nonhumans all over the world. Not only are we killing many animals per year directly, through factory farming, deforestation, the wildlife trade, and more. And not only are we killing many animals per year indirectly, through outbreaks, fires, floods, and more. We are also killing many animals indirectly by depriving them of food, water, shelter, and other basic goods. Thus, I will argue, we not only have a duty to use animals less as part of our mitigation efforts and support them more as part of our adaptation efforts. We also have a duty to do this work *comprehensively*, for example by providing animals with food, water, shelter, and other basic goods, to the degree that we can.

This conclusion might seem radical, since it implies that our duties to animals are much more extensive than we might have thought. But the premises from which this conclusion follows are plausible and widely accepted. Increasingly, animal suffering is massive, neglected, and tractable.[9] And increasingly, we participate in the activities that cause this suffering, benefit from the activities that cause this suffering, and have the power to reduce this suffering. Thus, I will argue, we morally ought to reduce this suffering to the degree that we can.[10] Many

people already accept that we should work to address the needs of distant strangers, such as members of other nations and generations, for these reasons. I will argue that we should work to address the needs of other animals for these reasons as well.

Unfortunately, this work will not be easy, in part because pandemics, climate change, and other human-caused global threats are, to adapt a term by Stephen Gardiner, *perfect moral superstorms*.[11] That is, they are interspecies, international, and intergenerational collective action problems, where we all have an incentive to be part of the problem rather than part of the solution, and where the individuals most responsible for the problem (humans in the global 0.0000000001%) are different from the individuals most impacted (humans and nonhumans in the global 99.9999999999%).[12] Addressing these threats ethically and effectively requires transforming not only our external social, political, economic, and ecological systems but also our internal beliefs, values, intentions, and expectations.

Given these realities, many people will object to the idea of including animals in health and environmental advocacy and policy. Some will claim that including animals is futile, since we could never achieve or sustain these changes, and since, even if we could, these changes would likely do as much harm as good in the long run. Others will claim that including animals is too demanding, since it requires humans to make substantial sacrifices. I will argue that these concerns are reasonable but not persuasive. Including animals in health and environmental advocacy and policy is not as futile or demanding as we might have thought. And insofar as it might be, we might have a moral responsibility to do it anyway, as an expression of respect and compassion for nonhuman animals.

Still, deciding that we should include animals in health and environmental advocacy and policy is the easy part. Deciding how to do so ethically and effectively is harder, due to the nature of the problem and the limits on our knowledge, power, and political will. How will global changes such as pandemics, climate change, and our responses impact humans and nonhumans? And what can, and should, we do in light of these expected impacts? Our current inability to answer these questions and act on our answers places us in a bind. On one hand, we need to take bold action to address the harms that human activity is

causing. On the other hand, when we attempt to take bold action in the context of so much risk and uncertainty, we risk causing new harms. Balancing these risks will be hard to do well.

The good news is pandemics, climate change, and other human-caused global threats are not only threats but also opportunities. In showing us the limits of our current systems, they also show us the need for new systems—new ways of living with each other within and across species, nations, and generations. We increasingly appreciate that we need to fundamentally transform our societies in order to mitigate and adapt to the effects of our past activity and prepare for the effects of our future activity. As we do, we can make sure that we do right by everyone involved, including other animals. Of course, we might not be able to eliminate suffering and death in the world. But we can still reduce suffering and delay death for many vulnerable individuals. To the degree that we can, we should.

1.4. What this book will do

The first half of this book will make the basic case for including animals in health and environmental advocacy and policy. We are currently harming many human and nonhuman animals unnecessarily, and we have a duty to reduce and repair these harms. And while reducing and repairing these harms will be hard, there are many steps that we can take to address these issues that will benefit humans and nonhumans alike (or, at least, that will benefit nonhumans without harming humans). For example, we can reduce support for factory farming, deforestation, and the wildlife trade. We can increase support for humane, healthful, and sustainable alternatives to these practices. And we can include animals in impact assessments and policy decisions about a wide range of important matters.

The second half of this book will then examine some of the harder empirical, moral, and political questions that we need to answer to make our duties to other animals more concrete. For example, including animals in impact assessments and policy decisions is hard because animals currently lack political standing and representation. How can we include animals in politics and navigate the conflicts that

might follow? Moreover, including animals in impact assessments and policy decisions is hard because it requires making decisions about which animals count, how much they count, and in what ways they count. How can we make these decisions responsibly, given the limits of our human perspective? As we will see, we must take these limits seriously, without treating them as an excuse for inaction.

As might already be clear, several general themes will emerge over the course of this book. First, the Anthropocene requires multidisciplinary thinking. We need to draw from the humanities, social sciences, and natural sciences in an integrated manner in order to know how to mitigate and adapt to the harmful effects of human activity. For example, we need to draw from the sciences because we need to know how our policies will impact everyone in order to know which policies to select. But we also need to draw from the humanities because we need to make assumptions about which impacts matter, how much they matter, and in what ways they matter in order to know which policies to select. As we will see, many questions that might seem fully empirical are in fact partly ethical too, and vice versa.

Second, the Anthropocene requires pluralistic moral thinking. We have a responsibility to help animals as much as reasonably possible while harming them only when necessary for self-defense, other-defense, or other such purposes. Insofar as we think that morality is about impacts, we should accept this framework because it allows us to prevent harm as effectively as possible, given the complexity of harm in the world. Insofar as we think that morality is about other factors, too, such as rights, virtues, or relationships, we should accept this framework because it allows us to reduce and repair the harm that we cause as effectively as possible, given our complicity in harm in the world. Either way, we will find that different moral theories can at least partly converge on a shared framework for solving shared problems.

Third, and relatedly, the Anthropocene requires holistic, structural empirical thinking. The problems that we face are all linked at multiple levels. For instance, factory farming contributes to human suffering, nonhuman suffering, pandemics, and climate change all at once. If we think about only some of these harms, then we might pursue solutions that reduce some harms while increasing others. But if we think about all of them, then we can pursue solutions that reduce harm across the

board. Moreover, factory farming is able to cause these harms because our current social, political, and economic structures support this industry, and there is a limit to how much progress we can make by working within these structures. So, while we should do what we can within these structures, we should also do what we can to change them.

Fourth, and relatedly, the Anthropocene blurs the distinction between natural and human-caused harms. Suppose that we define natural harms as harms that occur independently of human activity, and that we define human-caused harms as harms that occur as a result of human activity. In this case, many harms in the future will be at least partly human-caused. This might include not only animal suffering that results from, say, fires and floods but also animal suffering that results from, say, hunger and thirst. When humans shape which animals can live and what kinds of lives they can have, we might need to take responsibility for what happens to them more, while also accepting the limits of our ability to do that. This ambiguity is another reason why pluralistic moral thinking will be essential moving forward.

Fifth, and relatedly, every option available to us involves risks and harms, for humans as well as, especially, nonhumans. This includes not only action but inaction. In particular, the more that we try to help, the more we risk causing new harms. But the less that we try to help, the more we risk allowing ongoing human-caused harms to occur. To strike a balance, we should try to help at least some animals now, while building the knowledge, power, and political will that will allow us to help more animals later on. Nobody knows what will be best for humans and nonhumans in the long run. But if we take the steps discussed here, then we can do at least some good now while empowering our successors to do much more good in the future. All of my proposals in this book are designed with these aims in mind.

Finally, we will need to strike a balance between the real and the ideal. In a perfect world, we would create a multispecies society in which all animals can flourish. In the real world, we might not be able to do that. Part of the reason is that there is too much conflicting need in the world, and while we might be able to reduce these conflicts, we might not be able to eliminate them. Another part of the reason is that there are limits on what humans are able and willing to do. Thus, even

insofar as reducing these conflicts might be possible for ideal agents, it might not be possible for human agents. Accepting these realities is a condition of ethical and effective advocacy and policy. We should neither underestimate our responsibilities because of our limitations nor underestimate our limitations because of our responsibilities.

1.5. What this book will not do

Of course, any discussion of a topic this complex will have many limitations, and my discussion here will be no exception. I want to emphasize several limitations of this book before I start. First, with respect to ethics, I will focus mostly on an animal-friendly consequentialism (according to which we should prevent harm where possible) and an animal-friendly rights theory (according to which we should avoid causing harm where possible). These examples are all I need to show how, in the Anthropocene, different moral theories can at least partly converge in a shared set of ideas about what to do. Of course, much of what I say about these moral theories might generalize to other moral theories, too. Insofar as it does, my argument about partial convergence might generalize, as well. But I will not try to establish that here.

Second, with respect to impacts, I will focus mostly on how our exploitation and extermination of nonhuman animals are contributing to pandemics and climate change, as well as on how pandemics and climate change are contributing to nonhuman suffering and death. These examples are all I need to show how, in the Anthropocene, human activity is contributing to global threats that will harm humans and nonhumans alike. Of course, much of what I say about pandemics and climate change might generalize to other human-caused global threats, too. Insofar as it does, my argument for including animals in health and environmental advocacy and policy might generalize, as well. I will note some other, related impacts along the way, but I will not discuss them in detail.

Third, with respect to the questions that I raise, I will sometimes offer answers, but I will not always do so. For example, I will argue that we should reduce support for factory farming, deforestation, and the wildlife trade, that we should increase support for alternatives, and

that we should include animals in impact assessments involving employment, education, social services, and infrastructure. But since many global changes will involve substantial trade-offs, I will leave it open which global changes are good for animals overall. As we will see, once we consider all relevant stakeholders in our impact assessments, including all the animals who might or might not come into existence as a result of our policy decisions, we might find that we have no idea what kind of world to build for animals yet.

Fourth, and relatedly, even with respect to the questions that I answer, I will not defend my answers in maximum detail. My aim here is not to get to the bottom of any particular issue, but rather to explore a wide range of issues, show how they interact, and show why they matter. More concretely, my aim is to present, as clearly and concisely as possible, the basic case for including animals in health and environmental advocacy and policy, as well as to survey, as clearly and concisely as possible, some of the many empirical and normative issues that this work will force us to confront in an integrated manner. While this approach might sacrifice depth for breadth, my hope is that it will be useful for both motivating and framing some of the more detailed discussions that will be necessary moving forward.

Fifth, I will consider our collective responsibilities more than our individual responsibilities in this book. For example, I will spend more time discussing how states can reduce support for factory farming and increase support for alternatives (for instance, by subsidizing plant-based food systems) than discussing how individuals can do so (for instance, by adopting plant-based diets). Of course, our individual behavior matters, too. For instance, the more individuals adopt plant-based diets, the easier it will be for states to subsidize plant-based food systems, and vice versa.[13] But since pandemics, climate change, and other human-caused global threats are collective action problems that require collective action solutions, our collective responsibilities regarding these threats will be my focus here.

Sixth, and relatedly, I will consider how the Anthropocene shapes our collective duties across species, nations, and generations more than whether we have such duties in the first place. Philosophers have spent decades arguing that we have such duties, and I want to build on this work rather than replicate it. I will explain my moral assumptions

in Chapter 2, and I will complicate them throughout the book, for instance by raising questions about which animals count and how much they count, and by showing why the answers are relevant for our impact assessments and policy decisions. But I will not attempt to argue for these assumptions in any detail. Instead, I will trust that you either accept these assumptions as well or, at least, are willing to grant them for the sake of an interesting discussion.

Finally, a note about the title of this book.[14] I like this title in part because it makes sense on a variety of interpretations. We should save animals *and* ourselves (since we can save humans and nonhumans at the same time). We should save animals *including* ourselves (since humans *are* animals). We should save animals *in order to* save ourselves (since human, nonhuman, and environmental health are linked in many ways). We should save animals *by* saving ourselves (for the same reason). We should save animals *in order to redeem* ourselves (since our moral character is shaped in part by our treatment of the most vulnerable among us). We should save animals *by redeeming* ourselves (since our treatment of the most vulnerable among us is shaped in part by our moral character). And so on.

However, the title of this book has limitations as well, and I should mention three at the outset. First, saving animals is not always morally necessary, since in many cases we will not be able to save animals ethically or effectively. Second, saving animals is not always morally sufficient, since in many cases we should improve the lives of animals in other ways, too, such as by harming them less, helping them more, and altering the structures within which humans and nonhumans interact. Third, even when saving animals is both necessary and sufficient, that does not make our story a simple savior story. Many interventions in the lives of others are likely to have mixed effects. Also, do we really count as saviors without qualification when the threats from which we save animals are, in whole or in part, human-caused?

2
Animal ethics in a human world

2.1. Introduction

Many people agree that we have moral duties to animals but disagree about what kinds. For consequentialists (who think that morality is about consequences), the idea tends to be that we should improve animal welfare where possible. Every year, hundreds of billions of captive animals and hundreds of trillions of wild animals suffer and die unnecessarily, and we have the power to reduce this suffering. Since a world with less suffering is a better place, all else equal, many consequentialists believe that we morally ought to reduce animal suffering, all else equal. However, the main question for consequentialists is how our epistemic and practical limitations might affect this moral duty. Do we have the knowledge, power, and political will necessary to reduce animal suffering effectively and sustainably at scale?

In contrast, for nonconsequentialists (who think that morality is about more than consequences), the idea that we have moral duties to animals tends to lead in a different direction. Instead of thinking that we should improve animal welfare wherever possible, many nonconsequentialists think that we should leave animals alone, out of respect for their autonomy. However, the main question for nonconsequentialists is how the source, scale, and complexity of animal suffering and death in the modern world change this moral duty. When human activity is the source of wild animal suffering and death, do we have a duty to intervene? And, when wild animals are suffering and dying a lot, and we have the power to prevent these harms without interfering with wild animal autonomy, do we have a duty to intervene?

My aim in this chapter is to argue that, in the Anthropocene, consequentialists and nonconsequentialists alike have reason to at least partly converge on a shared moral framework in practice. According to this shared moral framework, we should aspire to help

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animals as much as reasonably possible, and we should also aspire to harm animals only when necessary for self-defense, other-defense, and other such purposes. For consequentialists, we should accept this framework because it allows us to help animals as effectively as possible, given our epistemic, practical, and motivational limitations. For nonconsequentialists, we should accept it because it allows us to respect nonhuman rights as effectively as possible, given the source, scale, and complexity of animal suffering in the world.

My discussion in this chapter will be selective and general. I will not consider all possible moral theories, nor will I consider any particular moral theory in full detail. Instead, I will focus on utilitarianism as a kind of consequentialism and on rights theory as a kind of nonconsequentialism for the sake of simplicity and specificity. To be clear, I am not making this choice to privilege relatively simple and unified moral theories such as utilitarianism and rights theory over relatively complex and pluralistic moral theories such as virtue theory and care theory. Instead, I am making this choice to show that even relatively simple and unified moral theories can require relatively complex and pluralistic moral thinking in practice. Like it or not, there is no avoiding moral complexity in the Anthropocene.

2.2. Species, nations, and generations

I will assume in this book that sentience is sufficient for well-being and moral status, and that morality involves a universal duty of nonmaleficence. Here is what that means. If you are sentient (that is, if you can experience pleasure and pain and have desires and preferences[1]), then you have the capacity for well-being (that is, you have a life that can go better or worse for you) and moral status (that is, you morally matter for your own sake). And if you have the capacity for well-being and moral status, then I at least have a duty of nonmaleficence to you (that is, I at least have a duty not to harm you unnecessarily, and to reduce and repair this harm if I do). These assumptions are plausible and widely accepted, but they also imply that our moral duties are much more expansive than many people appreciate, in several respects.[2]

First, these assumptions imply that we can have moral duties to members of other species. After all, we now have considerable evidence that many nonhuman animals can experience pleasure and pain and have desires and preferences. This includes all vertebrates, including mammals, birds, reptiles, amphibians, and fishes. It also includes many invertebrates, such as many mollusks, and it might include many other invertebrates, such as many arthropods, as well. Granted, we might not be certain which animals are sentient, and we will consider how to resolve uncertainty about sentience and other, related matters in Chapter 7. For now, I will simply assume that we at least have a moral duty not to harm many nonhuman animals unnecessarily, and to reduce or repair these harms where possible when we do.

Of course, to say that we can have moral duties to members of other species is not necessarily to say which duties we have or how strong they are. We need to ask many further questions to determine the content and strength of our duties. For instance, what interests do particular nonhuman animals have, and how strong are these interests? Also, how much are we able to predict and control our impacts on nonhuman animals? We will consider these questions throughout this book. For now, I will simply assume that many nonhuman animals have a nontrivial interest in avoiding suffering and death as a result of hunger, thirst, illness, injury, and violence. As a result, I will assume that we harm many nonhuman animals when we cause them to suffer and die in these ways.

Similarly, to say that we can have moral duties to members of other species is not necessarily to say that they can have moral duties to us. In general, the question whether someone is a moral *patient* (i.e., whether *others* can have duties to *them*) is separate from the question whether someone is a moral *agent* (i.e., whether *they* can have duties to *others*). Plausibly, you need to be able to think about morality in order to be a moral agent, but you do not need to be able to think about morality in order to have the capacity for well-being, and thus be a moral patient. Of course, it might be that many nonhuman animals are moral agents, either because they can think about morality or because this ability is not, in fact, necessary for moral agency. Either way, I will simply assume that many nonhuman animals are moral patients.[3]

Second, these assumptions also imply that we can have moral duties to members of other nations and future generations. We live in an interconnected world, where we increasingly have the power to impact people across nations or generations. And at present, many of us participate in social, political, and economic systems that impact people in other nations and generations in a variety of ways. Granted, we might not be sure how impactful our actions are, since we might not be sure whether our actions can be said to benefit or harm individuals in the far future. We will consider these issues in Chapter 8. For now, I will simply assume that we are capable of benefiting or harming at least some future individuals, including individuals who will exist in the near future or who will have bad lives as a result of our behavior.

As with members of other species, to say that we can have moral duties to members of other nations and future generations is not necessarily to say which duties we have or how strong they are. We once again need to ask many further questions in order to determine the content and strength of our duties. Many of these questions are the same as before, but even harder to answer. For instance, how similar will the interests of future individuals be to the interests of current individuals? Also, how much, if at all, are we able to predict and control our impacts on future individuals? While keeping an open mind about these issues as much as possible, I will assume that future individuals will at least have many of the same basic interests as current individuals, including a nontrivial interest in avoiding suffering and death.

Similarly, as with members of other species, to say that we can have moral duties to members of other nations and future generations is not necessarily to say that they can have moral duties to us. For instance, the question whether current individuals have the power to benefit or harm future individuals is separate from the question whether future individuals have the power to benefit or harm current individuals. Plausibly, there are differences across nations and generations that make reciprocity difficult. Of course, reciprocity might not be impossible, even across generations; for instance, perhaps our successors can benefit or harm us by preserving or destroying our legacies. Either way, I will assume that insofar as we can harm future individuals, we have duties to them whether or not they also have duties to us.[4]

Questions about what we owe to members of other species, nations, and generations are profoundly important. How we answer them will partly determine which animals count, how much they count, and in what ways they count in our impact assessments and policy decisions. For example: Do insects have interests, and, if so, what interests do they have and how strong are these interests? Also, will human activity create more or fewer insects in the future, and will we count as benefiting or harming future insects as a result? The answers to these questions will partly determine what kind of future we should attempt to create and how. But I will not discuss these matters yet. Instead, I will start with a simpler question: What kinds of moral duties might we have to other animals in practice, in a world reshaped by human activity?

2.3. Individual and collective responsibility

I will also assume in this book that we can have moral duties—including moral duties to members of other species, nations, and generations—both individually and collectively.[5] In particular, we are individually responsible for our individual behavior, we are collectively responsible for our collective behavior, and we are individually responsible for our participation in collective activity. Thus, for example, suppose that 100 people each pour a gallon of waste into a lake. In this case, these 100 people are collectively responsible for the harm that all 100 gallons cause, and so they should work collectively to reduce and repair this harm if possible. And each person is responsible for their participation in this collective harm, and so they should try to participate in the collective reparative act if possible.

People accept that we have these individual and collective duties for different reasons. Some think that we have them because our individual participation in collective actions makes an expected difference.[6] This can happen in different ways. For instance, we might think that each gallon of waste has a large chance of causing a small amount of harm, or we might think that each gallon of waste has a small chance of triggering a "tipping point" that causes a large amount of harm. Either way, when we consider both the probability

that each gallon will cause harm and the level of harm that it will cause, if any, we find that each gallon is at least somewhat harmful in expectation. On this view, collective responsibility is a useful framework for thinking about individual impact in the context of collective action.

Other people think that we have these duties *whether or not* our individual participation in collective actions makes an expected difference.[7] For example, on one view, instead of asking, "What will happen if *I* pour waste into the lake," each person should ask, "What would happen if *everyone* poured waste into the lake?" No matter what the answer to the former question is, the answer to the latter question is clear. If everyone poured waste into the lake, they would pollute the lake. And, since these individuals would rather live in a world where nobody poured waste into the lake than in a world where everyone did so, they must accept that nobody is permitted to pour waste into the lake. On this view, collective responsibility is a useful framework for thinking about fairness in the context of collective action.

It might matter which of these views we accept in some cases, since our individual behavior might make an expected difference in some cases but not in others. For example, you might think that you should avoid travel during a pandemic, since you might be relatively confident about the causal link between individual travel and disease spread. But you might deny that you should avoid travel in light of climate change, since you might be relatively skeptical about the causal link between individual travel and climate change.[8] In this case, it might matter whether you think about individual complicity in terms of impacts, fairness, or something else. In any case, I will simply assume here that we can have collective duties to members of other species, nations, and generations, and I will leave the details open.

When we put these assumptions together, it follows that we can have individual as well as collective moral duties not only to humans in other nations and generations, and not only to nonhumans in our own nation and generation, but also to nonhumans in other nations and generations. Granted, we might think that our duties to some individuals, such as members of our own species, nation, and generation, are stronger than our duties to other individuals, such as members of other species, nations, and generations, for all kinds of moral, epistemic, or

practical reasons. But I will argue in this book that these considerations do not support anything like the status quo. We have a moral duty to consider the interests of, say, distant future animals much more than we currently do in our impact assessments and policy decisions.

We might be skeptical of this result, but we should also be skeptical of our skepticism. This result follows from plausible and widely accepted moral principles. In contrast, our skepticism is easily explained as a product of multiple kinds of bias. For example, our skepticism might be partly the result of prejudice and self-interest. We naturally favor in-group members over out-group members. This is true about biological, national, and generational groups, albeit in different ways and to different degrees. We also recognize that, if we extend basic moral consideration to out-group members, then we might have to give up some of our current privileges in order to treat them as they deserve to be treated. But as we will see, this is not a good reason to deny basic moral consideration to out-group members.

Our skepticism might also be partly a result of cognitive biases and heuristics such as the availability heuristic and scope insensitivity. For example, we are more sensitive to problems that are salient to us (such as interpersonal violence) than to problems that are not (such as future health or environmental threats). We are also more sensitive to problems that affect small numbers of individuals (such as interpersonal violence) than to problems that affect large numbers of individuals (such as future health or environmental threats). We have these traits because we evolved in a prior epoch, where a higher proportion of our problems were local and individual. But now that we live in the Anthropocene, we should recognize the impact that these traits can have on our moral intuitions and attempt to move beyond them.[9]

In any case, my aim in this chapter is not to argue that we can have collective duties across species, nations, and generations. My aim is rather to assume that we can have these duties, and to examine what these duties might look like in the Anthropocene. I will consider this issue from the perspectives of utilitarianism and rights theory, and I will argue that even if these theories diverge a lot in principle, they can still converge a lot in practice. Given the increasing complexity of harm in the world *and* our increasing complicity in harm in the world, supporters of both theories should accept that we have a duty to help

members of other species, nations, and generations as much as reasonably possible, and that we have a duty to harm these individuals only when necessary for self-defense, other-defense, and other such purposes.

2.4. Utilitarianism in theory

With that in mind, consider first how a utilitarian might think about animal ethics in the Anthropocene. Utilitarianism is a consequentialist moral theory, which means that it holds that morality is entirely a matter of consequences. In particular, utilitarianism holds that we are morally required to do the most good possible in the world, by maximizing positive well-being. There are different interpretations of this view, including different interpretations of well-being and different interpretations of a duty to maximize positive well-being. We will consider some of the issues that lead to these different interpretations later on. For now, I will simply discuss utilitarianism as the view that we are morally required to bring about as much happiness and as little suffering in the world as possible.[10]

Many people associate utilitarianism with the view that we have a moral duty to prevent harm, provided that we can do so without sacrificing anything comparably morally significant. Recall the examples that we discussed at the start of Chapter 1. If you are partly responsible for the fact that a fawn is drowning in a pool in your yard, should you save the fawn? And if you are not at all responsible for the fact that a fawn is drowning in a pond at a park, should you save the fawn? A utilitarian would say that you have a moral duty to save the fawn in both cases, all else equal. What matters is that you have the power to make the world a better place, by bringing about more happiness or less suffering. All other factors, including your relationships with any individuals involved, are morally irrelevant.

At least in theory, utilitarianism is radically impartial. It holds that we should assign equal weight to the interests of all sentient beings when deciding what to do. For example, you might want to spend some of your spare money on yourself. You might also want to spend some of this money on your family, since you love them and you think you owe

it to them. And you might want to donate some of this money to local causes that your family supports, since, again, you love your family, and you also want to help people in your community. But according to utilitarianism, if you can do more good overall by, say, donating all your spare money to the Against Malaria Foundation, then you should do that instead.[11] What matters is that you do the most good possible, not how you relate to everyone involved.

At least in theory, utilitarianism is also radically benevolent. It holds that we should maximize happiness and minimize suffering whether we do that by bringing about more happiness in the world or bringing about less suffering in the world. For example, you might think that *not causing* suffering in the world is more important than *preventing* suffering in the world. You might also think that *reducing suffering* in the world is more important than *increasing happiness* in the world. But utilitarianism does not make any of these distinctions. According to this theory, what matters is that you do the most good possible, not whether you do that by preventing suffering or merely not causing suffering, or whether you do that by making miserable people less miserable or by making happy people happier.

As a result of its impartial benevolence, utilitarianism is a highly demanding moral theory. It implies that each action that we perform is morally right insofar as, and only insofar as, it does more good than all available alternatives. This applies to major decisions, such as what to study in college, what to do for a living, what to do with our spare time, and whether to have a family. It also applies to minor decisions, such as what to wear today, what to eat for breakfast, how to get to work, and what podcasts to listen to on the way. Of course, many of us might find that we enjoy the activities through which we can do the most good possible. If so, then we can aspire to do the most good possible without sacrificing our own happiness. But if not, then we might have to sacrifice our own happiness, at least to a degree.

Similarly, as a result of its impartial benevolence, utilitarianism is a highly unrestrictive moral theory. It implies that we morally ought to do the most good possible *by any means necessary*. For example, if you need to harm one person in order to save five people from being harmed, then you morally ought to do that, all else equal. And if you

need to kill one person in order to save five people from being killed, then you morally ought to do that, all else equal. Of course, we might find that we need to treat people with respect and compassion in order to do the most good possible in many cases. If so, then we can permissibly avoid sacrificing the few for the sake of the many in these cases, according to utilitarianism. But if not, then we might have to make those sacrifices for the greater good.

Given these features of utilitarianism, what does this theory imply about our moral duties to nonhuman animals? First, it implies that we morally ought to help animals as much as possible, all else equal. At any given moment, billions of captive animals and trillions of wild animals are suffering and dying, and we have the power to improve many of their lives, either by increasing their happiness or by decreasing their suffering. Thus, utilitarianism implies, we morally ought to help these animals whether or not we are responsible for their suffering. Moreover, utilitarianism implies, we morally ought to *prioritize* this project, at least to a degree, since we can increase happiness and decrease suffering in the world much more cost-effectively by helping animals than by working on many other causes.[12]

Second, however, utilitarianism also implies that we morally ought to harm or kill animals for the greater good, where necessary. Suppose that if we kill, say, 10,000 lab animals, then we can develop a medicine that will save 50,000. Similarly, suppose that if we kill, say, 10,000 wild animals, then we can prevent an outbreak that would kill 50,000. Suppose further that we have no other way to achieve these goals, and that the happiness that we cause and the suffering that we prevent outweigh the suffering that we cause and the happiness that we prevent. In these cases, utilitarianism would imply that we morally ought to kill these animals, all else equal. Granted, we might be harming all of these animals. But what matters is that we do the most good possible, not what means we take to this end.

2.5. Utilitarianism in practice

But matters are more complex in practice, especially in the Anthropocene. Consider three reasons why. First, a utilitarian needs

to take seriously the limits on our knowledge. We might not have the time, information, or rationality necessary to reliably apply impartial, benevolent harm-benefit analysis in everyday life. Think about what this would require. Before we make any decision, we would have to estimate the impacts of every possible action on every possible individual. Not only would that take a lot of time, but it would also be difficult to do well, due to human bias and ignorance. Thus, if we want to do the most good possible, then we might sometimes need to either limit which harms and benefits we consider or replace harm-benefit analysis with other, simpler moral rules, such as "when in doubt, do no harm."

Second, a utilitarian needs to take seriously the limits on our power. In an ideal world, we might be able to make all our decisions by thinking about what to do. But in the real world, our decisions are shaped by many factors beyond our direct control. Some of these factors are psychological. For instance, we make many decisions at least partly as a result of subconscious drives. Other factors are relational and structural. For instance, we make many decisions at least partly as a result of social or environmental priming. Thus, if we want to do the most good possible, then we might need to think not only about what rules to follow but also about what virtues, relationships, and structures to build, so that we can promote good outcomes not only when we think about what to do but also when we respond to internal or external cues.[13]

Third, and relatedly, a utilitarian needs to take seriously the limits on our willingness to be altruistic. In an ideal world, we would all be able and willing to devote all our spare time, energy, and money to altruistic projects according to this theory. But in the real world, many of us are not only unable but also unwilling to do that. Granted, we might think that we can, and should, attempt to overcome our weakness of will as much as possible. But insofar as at least some weakness of will remains despite these efforts, we need to take this motivational limitation into account to ensure that our work can be sustainable. Thus, if we want to do the most good possible, then we need to strike a balance between aspiring to meet high standards and accepting that we might not always be able or willing to meet those standards in practice.

It follows that maximizing happiness sometimes requires thinking in nonutilitarian terms in everyday life. Granted, we might sometimes be able to use harm-benefit analysis in everyday life, for instance when we need to make major life decisions and we have enough time, information, and rationality to make these decisions carefully. But even in these cases, we might need to restrict the scope of our harm-benefit analysis, since we might not be able to reliably estimate the impacts of every possible action on every possible individual. And in many other cases, we might not be able to use harm-benefit analysis at all. Instead, we might need to focus on playing our roles in life well, and on pursuing the goals, following the rules, cultivating the virtues, and cultivating the relationships that support us in doing that.

As a result, utilitarianism is sometimes less impartial, benevolent, and demanding in practice than in theory. Yes, we should still pursue altruistic goals in life. But we should also sometimes pursue other goals as well, including our own personal projects and relationships. For example, if you commit to donating 90% of your spare money to highly impactful charities right now, then you might burn out within months. However, if you commit to donating 10% now, while building the structures in your life that allow you to gradually increase this amount over time, then you might be able to do this work sustainably and, as a result, you might do much more good in the long run. If so, then utilitarianism might imply that you should commit to donating 10% rather than 90% in practice, at least at present.

Similarly, utilitarianism is also sometimes more restrictive in practice than in theory. Yes, we should still take the means to our ends. But we should also adopt a presumption in favor of following rules, cultivating virtues, and cultivating relationships that support this project. For example, if you kill one to save five, then you might promote the idea that violence is acceptable in general. However, if you spare this person, while working to build structures in society that prevent similar conflicts from arising in the future, then you might promote the idea that violence is unacceptable in general, while addressing the root causes of problems that seem to be calling for violence now. As a result, you might do much more good in the long run. If so, then utilitarianism might imply that you should avoid killing this person in practice.

Given these complications, utilitarianism has more nuanced implications regarding nonhuman animals than many people assume. First, it implies that there can be limits on how much we should help animals in practice. For example, if we collectively commit to distributing, say, 99% of social benefits to nonhuman animals now, then we might burn out. However, if we commit to distributing, say, 1% of social benefits to nonhuman animals now, while building structures in society that allow us to increase this amount over time, then we might be able to do this work sustainably and, as a result, we might do much more good in the long run. If so, then utilitarianism might imply that we should commit to distributing 1% rather than 99% of social benefits to nonhuman animals in practice, at least at present.

Similarly, utilitarianism implies that there can be limits on how much we should harm animals for the greater good in practice. For example, if we kill 10,000 animals in order to develop a medicine that would save 50,000 animals, or in order to prevent an outbreak that would kill 50,000 animals, then we might promote the idea that violence against animals is acceptable in general. However, if we spare these animals, while building structures in society that prevent similar outbreaks from happening in the future, then we might promote the idea that violence against animals is unacceptable in general, while addressing the root causes of public health crises that seem to be calling for violence against animals now. If so, then utilitarianism might imply that we should avoid killing these animals in practice.

2.6. Rights theory in theory

Now consider how a rights theorist might think about animal ethics in the Anthropocene. Rights theory is a kind of nonconsequentialism, which holds that morality is about more than consequences. In particular, rights theory holds that we are not morally required to pursue any particular goal in life, including altruistic goals. Instead, we are morally permitted to set and pursue our own goals in life. However, we are also morally required to set and pursue goals in ways that allow others to do the same. As with utilitarianism, there are many interpretations of this view, and we will consider some of the issues that lead to

different interpretations later on. For now, I will simply discuss rights theory as the view that we have a moral duty, as well as a moral right, to live and let live in this kind of way.[14]

Many people associate rights theory with the view that we have a moral duty to reduce and repair the harms that we cause, provided that we can do so without sacrificing anything morally significant. Again, recall the examples from Chapter 1. If you are partly responsible for the fact that a fawn is drowning in a pool in your yard, should you save the fawn? And if you are not at all responsible for the fact that a fawn is drowning in a pond in a park, should you save the fawn? A rights theorist might say that you are morally required to save the fawn in the first case, since saving this fawn in this case is a matter of reducing and repairing harm that you caused. But you are not morally required to save the fawn in the second case, since saving the fawn in this case is merely a matter of preventing harm that you did not cause.

At least in theory, rights theory is less impartial than utilitarianism. It holds that we can be morally permitted as well as, in many cases, morally required to prioritize some individuals over others, all else equal. We can be permitted to do that because we are permitted to set our own priorities in life, within certain limits. And we can be required to do that because special relationships can produce special duties. For example, you might want to spend some of your spare money on yourself, some on your family, and some on causes in your community. According to rights theory, you are morally permitted to do all this, provided that you do it in a way that allows others to do the same. You might even be morally *required* to do some of this, since you might owe it to your family members or community members.

At least in theory, rights theory is also less benevolent than utilitarianism. It holds that we have a *perfect duty of nonmaleficence*, which means that we are *always* required to avoid harming others unnecessarily. In contrast, it holds that we have only an *imperfect duty of beneficence*, which means that we are only *sometimes* required to help others, and that we can choose when, how, and whom we help, within certain limits. On this view, for example, it would be unreasonable for you to say, "I avoid killing people on Mondays, Wednesdays, and Fridays, so I have a right to kill people on Tuesdays and Thursdays." But it might be reasonable for you to say, "I save lives on Mondays, Wednesdays, and

Fridays, so I have a right to not save lives on Tuesdays and Thursdays, and to spend time with my friends instead."

As a result of its limited impartiality and benevolence, rights theory is less demanding than utilitarianism in theory. Generally speaking, we have options about how to live our lives. Sure, if you want to devote your career to maximizing happiness, then you can do that, all else equal. But if you instead want to devote your career to maximizing your own happiness, then you can do that, too. Of course, rights theory can still be demanding in many cases. After all, many choices that people make in life do, in fact, harm others unnecessarily. It can take work to determine which choices do that. And when we do that work, we might find that we have fewer morally permissible options than we expected. But if we have multiple options that avoid harming others unnecessarily, then we are free to select among them.

As a result of these features, rights theory is also more restrictive about how we pursue our goals than utilitarianism in theory. We are not morally permitted to pursue our goals, including our altruistic goals, by any means necessary. For instance, you are not morally permitted to kill one to save five, all else equal. Granted, there can be exceptions. For example, you might be morally permitted to kill someone in self-defense (defending yourself from violence), in other-defense (defending someone else from violence), for their own good (sparing someone from a slow and painful death), as a side effect (killing someone as an unintended and unavoidable *result* of saving five), or, perhaps, for the sufficiently greater good (killing someone to save, say, 1,000). But these exceptions aside, you should simply do no harm.

Given these features of rights theory, what does this theory imply about our moral duties to nonhuman animals? First, rights theory implies that there can be limits on how much we should help animals in theory. Take the distinction between domesticated and wild animals. Some rights theorists think that we have a general duty to help domesticated animals because we have a history of harming and wronging them, and we can help them without harming or wronging them further. However, they think that we do not have a general duty to help wild animals because we do not have the same kind of history with them. We might not even have a general *right* to help wild animals,

since we might not generally be able to help them without interfering with their autonomy or otherwise harming or wronging them.[15]

Second, and relatedly, rights theory also implies that there can also be limits on how much we should harm animals in theory. Suppose that if we kill 10,000 animals, then we can develop a medicine that will save 50,000 animals or prevent an outbreak that would kill 50,000 animals. Suppose further that we have no other way to achieve these goals, and that killing these animals will do more good than harm overall. In this kind of case, rights theory might imply that we morally ought to spare these animals. Granted, our decision to spare these animals might bring about more suffering than happiness (though as we have seen, this might not always be true in practice). But our duty to avoid harming and killing others is stronger and more universal than our duty to help and save others, and so we might need to accept this outcome.

2.7. Rights theory in practice

But as with utilitarianism, matters are more complex in practice, especially in the Anthropocene. Consider three reasons why. First, a rights theorist needs to take seriously our complicity in suffering and death. As we will see in Chapter 3, human activity is harming trillions of animals per year both directly and indirectly, through practices such as factory farming, deforestation, the wildlife trade, and more. Insofar as human activity is harming animals unnecessarily, rights theory implies that we have a moral duty not to participate in that activity unnecessarily. And insofar as we harm animals unnecessarily and have the power to reduce or repair these harms without sacrificing anything morally significant, rights theory implies that we have a special moral duty to attempt to reduce and repair these harms.[16]

Second, a rights theorist needs to take seriously the exceptions to standard moral duties. For example, if we can permissibly kill someone to defend someone else, does that mean that we can permissibly kill predators or parasites to defend other animals from predation or parasitism? If so, then we can permissibly kill many animals, since many animals kill other animals in these ways (though we will later discuss

reasons to be cautious about this idea). Similarly, if we can permissibly kill someone for their own good, does that mean that we can permissibly kill animals whose lives likely involve more suffering than happiness? If so, then we might once again be permitted to kill many animals, since many animals might have such lives (though we will later discuss reasons to be cautious about this idea, too).

Third, and relatedly, a rights theorist needs to take seriously the idea of harm thresholds. As noted previously, a rights theorist might hold that, while killing one to save *five* is morally wrong, killing one to save a *sufficiently high* number of individuals is not morally wrong. For instance, a rights theorist might hold that we can be permitted to kill one to save, say, 1,000, 10,000, or 100,000. On this kind of view, we might be permitted to kill animals in a wide range of contexts as well, since there are so many animals in the world that we might regularly find ourselves in situations where killing one will save thousands in expectation. With that said, a lot will depend on the details, including which animals count and how much they count. We will consider these questions in Chapters 7 and 8 as well.[17]

It follows that respecting rights sometimes requires thinking in consequentialist terms in everyday life. When all of the options available to us would cause harm, we might need to perform harm-benefit analysis (or another, similar kind of analysis) to determine which option would cause the least amount of harm in expectation. Moreover, when we are already complicit in activities that cause harm, we might need to think this way to determine whether and how we can reduce and repair these harms ethically and effectively. Finally, when reducing and repairing some harms might involve causing other harms as means to these ends, we might need to think this way to determine whether the stakes are high enough to warrant causing these harms, assuming that we accept a harm threshold in our view.

As a result, rights theory is sometimes more impartial, benevolent, and demanding in practice than in theory. Yes, we still have a right to set and pursue our own goals in life in theory. But when many options would cause harm unnecessarily, we might have a very limited set of morally permissible options in practice. And when we are already complicit in harm, we might also have a duty to select options that involve reducing and repairing that harm. Thus, for instance, you might

have a duty to spend more of your time and money on highly impactful altruistic work than you thought. And to the degree that you still spend time and money on yourself and your family, you might have a duty to spend that time and money in some ways (such as eating vegan food) rather than in other ways (such as eating meat and dairy).

Similarly, rights theory is sometimes less restrictive in practice than in theory. Yes, we should still pursue our goals only in morally permissible ways. But if we regularly encounter exceptions to standard moral duties, then we might regularly be permitted or required to act accordingly. Thus, for instance, if you regularly need to kill people in self-defense or other-defense, then you might be regularly morally permitted to kill people. Moreover, if killing people in these cases is necessary to reduce or repair harms in which you are complicit, then you might even be morally *required* to kill people in some of these cases. Indeed, if this kind of case is common enough for you, then we might even wonder at what point the rule becomes the exception and the exception becomes the rule for you in practice.

Given these complications, rights theory might have more nuanced implications regarding nonhuman animals than many people assume as well. First, it might imply that we are morally required to help domesticated and wild animals alike. In the Anthropocene, we might not have the option of simply leaving wild animals alone anymore, since we are already harming and interfering with many wild animals whether we like it or not. Thus, the question that we will increasingly face is: Will we attempt to reduce and repair the harm and interference that human activity is already causing wild animals? Or will we instead allow this harm and interference to continue unabated? Given these options, we might conclude that we morally ought to help wild animals as much as reasonably possible after all.

Second, rights theory might also imply that we are morally permitted to harm both domesticated and wild animals if necessary, within certain limits. For example, suppose that if we kill 10,000 lab animals, then we can develop a medicine that will save 10,000,000, or that if we kill 10,000 wild animals, then we can prevent an outbreak that would kill 10,000,000. Suppose further that we have no other way to achieve these goals, and that killing these animals will do *a lot* more good than harm overall (assumptions which, again, we might

question in practice). In these cases, a rights theory that includes a harm threshold might imply that we can permissibly kill these animals. Granted, we would be killing *many* animals as a means to further ends. But if the stakes are sufficiently high, then perhaps we can do that.

2.8. A partial convergence

For these reasons, the Anthropocene might produce a partial convergence between some consequentialist and nonconsequentialist theories, such as utilitarianism and rights theory, in practice. To be clear, I am not claiming that the Anthropocene will produce a partial convergence between *all* such theories. There are many theories in both of these categories, and while some might have the features that I discussed here, others might not. I am also not claiming that the Anthropocene will produce a *full* convergence between such theories. There are still many issues about which they might diverge. Still, insofar as the Anthropocene might have this effect, this is a powerful result. It allows us to be more confident that some policies are right, and it also allows proponents of different moral theories to work together to pursue these policies.

In particular, I have argued that utilitarianism and rights theory, as I have interpreted them here, converge on roughly the following views about how to treat animals in practice, in the Anthropocene. First, we have a duty to help animals as much as we reasonably can, within certain limits. But we also have a right to spend at least some spare time and money on our own projects and relationships, again, within certain limits. For utilitarians, we have these duties and rights because they allow us to help animals effectively and sustainably, given the increasing complexity of harm in the world. For rights theorists, we have these duties and rights because they allow us to reduce and repair the harm that we cause to animals, given our increasing complicity in harm in the world. Either way, we have these duties and rights in practice.

Second, we have a moral duty to avoid harming and killing animals unnecessarily in the course of pursuing our goals. But we also have a right, and perhaps a duty, to harm or kill animals in particular

cases, such as cases involving self-defense, other-defense, euthanasia, unintended harm, or the sufficiently greater good. For utilitarians, we have these duties and rights because they allow us to strike a balance between, on one hand, doing good directly through harm-benefit analysis, and, on the other hand, doing good indirectly through an investment in rules, rights, virtues, relationships, and other structures that promote the general good. For rights theorists, we have these duties and rights because there can be exceptions to standard moral duties. Either way, we have these duties and rights in practice.

For utilitarians and rights theorists who accept this kind of framework, animal ethics will involve consequentialist as well as nonconsequentialist reasoning in practice. On one hand, we will have to use harm-benefit analysis in order to estimate the impacts of our activity on human and nonhuman animals alike. On the other hand, we will also have to constrain our use of harm-benefit analysis by adopting a strong presumption in favor of following rules, cultivating virtues, and cultivating relationships of care with humans and nonhumans alike. On the other *other* hand, we will *also* have to be prepared to perform actions that are ordinarily impermissible according to these constraints, if and when we find ourselves in tragic situations where exceptions apply or where the stakes are sufficiently high.

For people who accept this kind of framework, we will have to ask difficult additional questions. For example, suppose that we accept that we can permissibly kill one human to save 1,000 humans. Should we also accept that we can permissibly kill one human to save 1,000 ants and that we can permissibly kill one ant to save 1,000 humans, or should we instead accept higher or lower thresholds in these cases to account for the differences between humans and ants? Also, suppose that if we kill one animal now, then we can spare 1,000 animals from having bad lives in the future. Is sparing a future animal the same as saving a current animal? These questions are hard, and how we answer them will have profound implications for our duties to animals in the Anthropocene, as we will see in Chapters 7 and 8.

How much convergence we see might depend on our answers to other questions too. When we reason as consequentialists, a lot depends on our context and the extent of our personal limitations. For example, some people might have jobs that require them to make

tragic choices more frequently than other people. Also, some people might be able and willing to apply harm-benefit analysis more impartially than other people. As a result, some people might be warranted in applying harm-benefit analysis more frequently than other people. My own view, which I can express without fully defending here, is that the truth is likely somewhere in the middle for most of us. That is, most people in most situations will likely need to strike a balance between consequentialist and nonconsequentialist ways of thinking in practice.

Similarly, when we reason as nonconsequentialists, a lot depends on the extent of our complicity and the extent of exceptions to standard moral duties. For example, we kill many wild animals both directly and indirectly. Are we equally complicit in all of these harms, or are we more complicit in direct harms than in indirect harms? Also, suppose that we regularly have the chance to kill one to save, say, 100. Do we accept a harm threshold, and, if so, is it lower or higher than 100? Once again, my own view, which I can express without fully defending here, is that the truth is likely somewhere in the middle. We are complicit in at least *some* indirect harms, namely, at least reasonably foreseeable indirect harms, and we should accept at least *some* harm threshold, namely, at least a reasonably high harm threshold.

In this book, I will consider our duties to nonhuman animals in the Anthropocene from the perspective of this pluralistic moral framework. For anyone who accepts roughly this framework (or, at least, the part of this framework that involves harming animals less and helping them more), there will be many projects on which we can collaborate in the short term. In particular, I will argue that we can work together to reduce our use of animals and increase our support for animals in a variety of ways. Of course, many important disagreements will remain, for instance concerning how to resolve difficult trade-offs and about how to set long-term goals. But we can work together to make progress in the short term while we continue to discuss these other, harder questions about what to do in the long run.

2.9. Exploitation, extermination, and ambivalence

When we consider animal ethics in the Anthropocene from the standpoint of this pluralistic moral framework, we can make a lot of

progress, but we also have to accept a lot of ambivalence. We can make a lot of progress because we can agree on the general parameters of discussion. Morality requires thinking about values, duties, rights, virtues, relationships, and structures in an integrated manner. The more we accept this basic idea, the more we can work together to answer difficult questions. However, we also have to accept a lot of ambivalence, because this kind of moral framework will produce very few clear, universal moral truths in a world with this much complexity and complicity. Instead, it will produce a lot of difficult trade-offs that require careful, contextual thinking to resolve.[18]

For example, consider two current debates in animal ethics. First, consider the debate about the *logic of the larder*, an argument that defends the practice of exploiting captive animals, such as farmed or lab animals, for human benefit. Some people think that we can permissibly exploit these animals not only because doing so benefits us, but also because doing so benefits the animals. Granted, some farmed and lab animals might have bad lives, that is, lives that are worse for these animals than nonexistence. But others might have good lives, that is, lives that, while far from ideal, are still better for these animals than nonexistence. In these latter cases, some people think, exploitation is good for all involved, since the exploited animals benefit from existence and everyone else benefits from the exploitation.

Second, consider the debate about the *logic of the logger*, a structurally similar argument that defends the practice of exterminating wild animals, such as "pests," "predators," and "invasive species," for human benefit. Some people think that we can permissibly exterminate these animals not only because doing so benefits us, but also because doing so benefits the animals. Granted, some wild animals might have good lives, that is, lives that are better for these animals than nonexistence. But others might have bad lives—that is, lives that, while good in some respects, are still worse for these animals than nonexistence. In these latter cases, some people think, extermination is good for all involved, since the exterminated animals benefit from nonexistence and everyone else benefits from the extermination.

How should a utilitarian evaluate these arguments? When all we consider is utilitarianism at the theoretical level of morality, the answer might seem clear: We should use and kill these animals. But when we

consider utilitarianism at the practical level of morality, the answer is less clear. For example, we have to ask: Do we have enough time, information, and rationality to estimate the impacts of these practices reliably? How will using and killing animals shape our perceptions of animals and our treatment of animals in the future? And do we have the resolve that we need to use and kill animals only in cases where doing so is net positive? Or is there a risk that using and killing animals in these cases will lead us to use and kill animals in many other cases as well, including cases where doing so is net negative?

Similarly, how should a rights theorist evaluate these practices? When all we consider is rights theory at the theoretical level of morality, the answer might seem clear: We should *not* use or kill these animals. But when we consider rights theory at the practical level of morality, the answer is less clear. For example, we have to ask: Are we responsible for the problems that using or killing these animals would solve? Are we morally permitted to use or kill animals in cases where doing so would either benefit them or, at least, not harm them? And if we accept a harm threshold, is the amount of harm that we would prevent by using or killing these animals high enough to outweigh the amount of harm that we would cause, and, once again, do we have reason to be confident in our assessment of these harms and benefits?

These questions entangle the consequentialist and nonconsequentialist parts of morality together. The more we account for the complexity of suffering and our epistemic, practical, and motivational limitations, the more we will see the need to supplement consequentialist thinking with nonconsequentialist thinking. And the more we account for our complicity in suffering and possible exceptions to standard moral duties, the more we will see the need to supplement nonconsequentialist thinking with consequentialist thinking. This is part of why ethics will be so complex in the Anthropocene. Not only will we need to think about values, duties, rights, virtues, relationships, structures, and so on all at the same time, but we will also need to think about some of these factors in the course of thinking about others.

If this analysis is at least roughly correct, then it vindicates the idea—found in virtue ethics, care ethics, and other such traditions—that morality cannot be reduced to a simple, unified set of values or principles, at least in practice.[19] In this respect, ethics is like science.

Even if we think that the *fundamental* laws of science are simple and unified, we still need to think in terms of physics, chemistry, biology, ecology, and so on in order to be able to predict what will happen in everyday life. Similarly, even if we think that the *fundamental* laws of ethics are simple and unified, we still need to think in terms of values, rules, virtues, relationships, and so on in order to be able to decide what to do in everyday life. In short, accepting that morality is simple in theory is not a reason to deny that it can be complex in practice.

Fortunately, in many cases it will be clear what we should do, because all relevant considerations will support the same analysis. For instance, as we will see, practices such as factory farming, deforestation, and the wildlife trade are clearly morally wrong because they cause massive and unnecessary suffering, violate human and nonhuman rights, express vicious attitudes toward vulnerable others, and place us in oppressive relationships with vulnerable others. We can also take solace in the fact that, if we bring about structural changes with human and nonhuman interests in mind (for instance, by developing animal-free sources of food and medicine), then we can prevent many conflicts from arising in the first place. But insofar as conflicts still arise, we will need to think carefully and contextually about what to do.

2.10. Conclusion

My goal in this chapter was to explore the implications of the idea that we at least have a moral duty not to harm sentient beings unnecessarily, and to reduce and repair that harm when we do, for animal ethics in the Anthropocene. I considered this question from two moral perspectives: a utilitarian perspective, according to which we should help others where possible, and a rights theory perspective, according to which we should avoid harming others where possible. I argued that, given the limits on our knowledge, power, and motivation, as well as the source, scale, and complexity of nonhuman animal suffering, these perspectives converge on the general idea that we should help animals where possible, and that we should harm others only where necessary for self-defense, other-defense, and other such purposes.

This partial convergence is important, since it identifies a shared moral framework that can serve as the basis for collective political action. In particular, I will argue, we can agree that we should include animals in health and environmental advocacy and policy, by reducing our use of animals and increasing our support for animals. We can also agree that doing this work ethically and effectively will require pluralistic moral thinking in practice. For both utilitarians and rights theorists, deciding what to do in the Anthropocene is likely never a simple matter of, on one hand, estimating benefits and harms, or, on the other hand, privileging harms that we cause over harms that we allow. When we accept that we must operate in a space between these extremes, we can make substantial progress.

At the same time, utilitarianism, rights theory, and other moral theories with similar features might still diverge with respect to some of the details, and these potential divergences will be instructive. For example, even if we agree that morality is moderately (rather than extremely or minimally) demanding in many cases in practice, we might still disagree about exactly what that means. And, even if we agree that morality is moderately (rather than minimally or extremely) restrictive in many cases in practice, we might still disagree about exactly what that means, too. As we will see later, we might disagree about other important issues, as well—for example, about whether we should promote total or average happiness (or some other outcome), and whether we can harm or wrong distant future animals at all.

In Chapter 3, I will survey how our use of animals is contributing to global threats such as pandemics and climate change, as well as how these global threats are, in turn, contributing to nonhuman suffering and death. I will also argue that we morally ought to include animals in health and environmental advocacy and policy, by reducing our use of them as part of our mitigation efforts and increasing our support for them as part of our adaptation efforts. I will then, in Chapters 4 and 5, reply to some objections to this argument and propose some steps that we can take in the short term, insofar as we accept this conclusion. Finally, in Chapters 6–8, I will survey some difficult questions that we need to answer before we can know what kind of world to build for human and nonhuman animals in the long run.

3
Animals, pandemics, and climate change

3.1. Introduction

Humans evolved as one species among many. About 12,000 years ago, fewer than five million humans shared the population with everyone else.[1] We all know what happened next. Humans discovered how to domesticate nonhuman animals and plants for agriculture. We built states around these agricultural centers. And we expanded these states through conquest and colonialism. As a result, we gradually spread throughout the world, and we gradually remade the world in our image. At present, humans and domesticated nonhuman animals and plants live all over the world. And we are increasingly living not in natural environments that accommodate many species but rather in artificial environments that privilege the needs of humans and select nonhumans over the needs of everyone else.

While these developments benefit many humans and nonhumans, they harm many humans and nonhumans as well. For example, factory farming, deforestation, and the wildlife trade harm and kill many animals each year. They also contribute to pandemics, climate change, and other global threats. These global threats, in turn, harm and kill humans and nonhumans alike, both directly and indirectly. For instance, pandemics kill many animals through the spread of disease, and climate change kills many animals through fires, floods, and other extreme weather events. In addition, both pandemics and climate change kill many animals by altering human and nonhuman interactions—for instance, by leading humans to exploit, exterminate, or neglect nonhumans at higher rates.

My aim in this chapter is to survey these links between animals, pandemics, and climate change and to call for health and

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environmental advocacy and policy frameworks that reflect these links. In particular, I will argue that we should include animals in health and environmental advocacy and policy by reducing our use of animals as part of our pandemic and climate change mitigation efforts and increasing our support for animals as part of our pandemic and climate change adaptation efforts. Extending policy frameworks such as One Health and the Green New Deal, I will also argue that we should do this work holistically, structurally, and comprehensively, by linking human, nonhuman, and environmental health as well as social, economic, and environmental justice, for humans and nonhumans alike.

As with my discussion of moral theories, my discussion of animals, pandemics, and climate change will be both selective and general. I will neither discuss all of the interactions between humans and other animals in the modern world nor discuss the interactions between animals, pandemics, and climate change in full detail. It would take many books to discuss these topics comprehensively. Instead, I will discuss a particular set of interactions between animals, pandemics, and climate change so that I can explore their moral and political implications. As I will argue, to the degree that animals are central to pandemics and climate change, both as causes and as victims, we have a responsibility to center them in our mitigation and adaptation efforts, both by harming them less and by helping them more.

3.2. How we treat animals

The world is changing, and human activity is changing it. During the past 400 years, our impact on the planet has steadily increased, to the point that many scientists now see human activity as the dominant force on the planet. As we have seen, some call this new epoch the *Anthropocene*, to reflect the fact that humanity is now the dominant force on the planet. Others call it the *Capitalocene*, to reflect the fact that human economic activity is now the dominant force on the planet. The former term makes sense insofar as humans are the cause of this economic activity. The latter term makes sense insofar as human economic activity in particular, rather than human activity in general, is producing the relevant changes. Either way, people generally agree

that human economic activity is systematically reshaping the global environment.[2]

Humans bring about these changes in many ways. We build cities that accommodate (some) humans and nonhumans while neglecting many others. We consume resources at a faster rate than the planet can produce them. We produce waste at a faster rate than the planet can process it. We pollute the land, air, and water with light, noise, and plastic, making it difficult for many animals to see, hear, and live. And so on. But we can focus for the sake of specificity on three practices whose impacts are particularly relevant: factory farming, deforestation, and the wildlife trade. In each case, we can focus on how these practices impact animals now, and we can then consider how these practices contribute to pandemics and climate change and how pandemics and climate change impact animals, in a moment.[3]

Start with factory farming. We now produce the vast majority of animal products industrially, through a factory farming system that systematically interferes with captive animals and an industrial fishing system that systematically interferes with wild animals.[4] These systems allow us to kill many more animals for food each year than nonindustrial systems could. In particular, we currently kill more than 100 billion animals for food each year through factory farming and anywhere from 1 to 3 trillion animals each year through industrial fishing.[5] To put these numbers in perspective, the total number of farmed animals killed for food each year rivals the total number of humans who have ever existed.[6] And the total number of wild animals killed for food each year exceeds this number by at least an order of magnitude.

Needless to say, these practices have a massive impact on animals. We breed many farmed animals to grow as big as possible as quickly as possible. We separate them from friends and family and confine them in cramped, toxic spaces with many other animals. We control them through castration, debeaking, tail docking, and more, typically without anesthesia. We transport them in crowded trucks without food, water, or medical care. And we kill them with methods that cause substantial unnecessary suffering. For example, we slaughter most land animals in slaughterhouses that employ "disassembly lines" that prioritize efficiency over worker or animal welfare.[7] And we slaughter

most aquatic animals, farmed and wild alike, by crushing or suffocating them, processes that are both slow and agonizing.[8]

Now take deforestation.[9] We have already reduced the global tree population by about 46%, and deforestation rates are increasing.[10] Many practices are contributing to this trend, including agriculture, development, and transportation.[11] But while all of these factors are important, the link between animal agriculture and deforestation is particularly important for our purposes. Animal agriculture contributes to deforestation in several ways, since we need to clear land not only to house animals but also to allow some animals to graze and to grow crops for other animals to eat. This means that animal agriculture tends to require much more space than plant agriculture, especially for animals such as cows, and especially for farms that allow animals at least some space to live at least somewhat naturally.[12]

Deforestation has a massive impact on animals as well. Forests are densely populated spaces, and we harm and kill many animals when we clear them. We also harm and kill many animals indirectly, by amplifying natural threats ranging from resource scarcity to temperature swings.[13] In many of these cases, this damage is intentional, such as when we destroy animal habitats to clear land for development. In many other cases, this damage might not be intentional but is still foreseeable and avoidable, such as when we disrupt migration routes as a side effect of development. Either way, the scale of this harm is staggering. For example, at least a billion vertebrates die in building and vehicle collisions every year.[14] In 2019, more than 300 birds collided with a single building in a single night.[15]

Finally, take the wildlife trade. We commodify tens of millions of wild animals each year for a variety of reasons. We breed or capture some wild animals to sell their bones, skins, teeth, or other parts as trophies, food, or medicine. We also breed or capture some wild animals to sell them as food, companions, or entertainment. Many of these animals end up in live markets—that is, open air markets where humans keep animals in captivity and then slaughter them in front of customers. Many others end up in circuses, zoos, aquariums, research labs, or "sanctuaries" that are in fact breeding centers for the wildlife trade. Much of this activity is illegal, but much of it is also legal, and it can often be hard for consumers and regulators to tell the difference. At

present, even the illegal wildlife trade earns an estimated $8 billion to $20 billion annually.[16]

Like factory farming and deforestation, the wildlife trade has a massive impact on animals. In cases where we capture wild animals, we cause them physical as well as emotional distress. We separate them from their families (which, of course, harms their family members as well) and transport them over great distances, which can cause illness, injury, pain, suffering, anxiety, depression, and, for many, death during capture or transport. In cases where we breed wild animals for the wildlife trade, we cause similar effects. And of course, in many cases we also intentionally harm and neglect captive wild animals, for instance by experimenting on them, extracting bodily fluids from them, or leaving them without access to food, water, companionship, enrichment, or veterinary care.[17]

3.3. Why our treatment of animals matters for animals

When we evaluate our impacts on nonhuman animals, we need to evaluate them not only at the species level, by considering our impacts on biodiversity, but also at the individual level, by considering our impacts on animal welfare. After all, nonhuman animals are more than parts of a whole, like drops of water or grains of sand. They are living, breathing, thinking, feeling individuals, and what they need as individuals can differ from what they need as species. We can see these points clearly when we consider our own species. Suppose that we ensure that humanity survives to see another generation. Does that guarantee that humans will have good lives? Of course not. As all recorded history makes clear, many humans can suffer and die unnecessarily even if humanity survives. The same is true for other animals.

There are several important ways that the needs of individual animals can differ from the needs of species. First, if particular animals have bad lives, then creating more of these animals can be good for the species but bad for the individuals, since it can subject them to lives that are worse for them than nonexistence. (And vice versa for creating fewer of them.) Second, even if particular animals have good lives,

creating more of these animals can still be bad for many of them, since it can subject them to increased competition. (And vice versa for creating fewer of them.) As we will see in Chapters 7 and 8, a lot depends on what we think about well-being and population ethics. But there is no question that individual and species needs can differ. And when they do, we will need to consider all these needs holistically.

These points apply to domesticated and wild animals alike. As we have seen, domesticated animals can have hard lives even when domesticated species are thriving. Humans breed the vast majority of domesticated animals with particular roles in mind (ranging from "food" to "friend"), and we then treat them accordingly. And while some of these roles are better for animals than others, they all expose animals to risks. For instance, even when we breed animals for companionship, we might still optimize more for cuteness and docility than for health and well-being.[18] We then not only harm but neglect many of these animals. For instance, we breed many more companion animals than we can support, with the result that millions suffer and die each year in the streets or in overcrowded shelters.[19]

Likewise, wild animals can have hard lives even when wild species are thriving. We have already considered some human sources of wild animal suffering, and we will consider others later. Importantly, there are many natural sources of wild animal suffering, too. Wild animals suffer and die all the time as a result of hunger, thirst, illness, injury, predation, parasitism, and reproductive strategies that involve having a very large number of babies at once, such that some can survive even if any particular one is very likely to die.[20] It would be a mistake to think that these processes are good for animals simply because these processes are "natural," and it would also be a mistake to think that intervening in these processes is bad for animals simply because intervention is "unnatural."

These impacts are relevant to animal ethics in the Anthropocene for consequentialists as well as nonconsequentialists. From a consequentialist perspective, these impacts underscore the complexity of animal suffering in the Anthropocene. Unless we bring about an end to all life on this planet (which is currently a risk as well[21]), every option available to us will likely produce "winners" and "losers," in the following sense: Some species will likely expand and others will likely

contract. When species expand, there will likely be more animals with good lives as well as more animals with bad lives. And when species contract, there will likely be fewer animals with good lives as well as fewer animals with bad lives. Thinking about these issues like a consequentialist requires considering all of these impacts holistically, which is very hard to do well.

Moreover, insofar as we consider all of these impacts holistically, we might face surprising questions. For example, should we even be mitigating and adapting to pandemics and climate change at all? When all we consider is humans, the answer is clearly yes. Pandemics and climate change are clearly bad for humanity, and so mitigation and adaptation are clearly good for humanity. But when we consider other species as well, the answer is less clear. After all, there are many more nonhumans than humans, and there is no guarantee that the global changes that benefit us will also benefit them. Thus, there is no guarantee that the global changes that benefit us will be net positive. Granted, we might think that if we have better lives, then we can ensure that other animals do, too. But are we warranted in thinking that?

Meanwhile, from a nonconsequentialist perspective, these impacts underscore the source, scale, and complexity of animal suffering in the Anthropocene. Insofar as animals are suffering or dying as a result of human activity, we might have a moral duty to intervene in at least some cases so that we can reduce and repair human-caused harms. Insofar as animals are suffering or dying as a result of predation or parasitism, we might have a moral duty, or at least moral right, to intervene in at least some cases so that we can protect animals from other animals. And insofar as we accept a harm threshold in our moral theory and a very large number of animals are suffering or dying, we might have a moral duty, or at least a moral right, to intervene in at least some cases on the grounds that the stakes are sufficiently high.

Moreover, as with consequentialism, insofar as we think about animal suffering in these terms, we might face surprising questions. For example, in a world where human activity partly determines which animals can exist and what kinds of lives they can have, can we still describe some animals as captive and domesticated and others as free and wild, or must we instead describe all animals as at least partly captive

and domesticated?[22] We will return to this issue when we discuss the legal and political status of animals in Chapter 6. But first, it will help to examine in more detail why our treatment of animals matters for pandemics, climate change, and other such threats, as well as why pandemics, climate change, and other such threats matter for animals, so that we can appreciate the full scope of the problem.

3.4. Why our treatment of animals matters for pandemics

Wild animals carry an estimated 10,000 viruses that have the potential to spread to humans, and the more we interact, the more we risk inducing outbreaks.[23] COVID-19 is only the most recent in a long line of such outbreaks. There have been many more in the past, and there will be many more in the future. And as we all now know, each time an outbreak occurs, we face the risk of a pandemic that can harm and kill millions, both directly and indirectly. In particular, pandemics can kill human and nonhuman animals not only by making us sick but also by disrupting social, political, economic, and ecological systems on which we normally rely.[24] The question that we must now ask is: How does our treatment of nonhuman animals in factory farming, deforestation, and the wildlife trade contribute to pandemics?[25]

Factory farming has a massive impact on global health in general. Factory-farmed animals produce an enormous amount of waste, and many factory farms simply allow this waste to accumulate and then dump it in the surrounding areas, which pollutes the air, land, and water and makes people sick in multiple ways. For example, it can damage the health of people who work in factory farms, damage the health of people who live in the surrounding areas, and damage the health of people who consume animal products, which can be contaminated by this waste as well. To make matters worse, factory farms and slaughterhouses are disproportionately located in low-income communities, including low-income communities of color, where people tend to have less power to advocate for themselves.[26]

Factory farming increases the risk of pandemics as well. Factory farms are ideal places for zoonotic diseases to not only *spread* but also *develop*. Factory farms routinely use antimicrobials to stimulate growth in animals and prevent the spread of disease; for example, about 80% of all antibiotics in the United States are sold for use in animal agriculture.[27] This makes factory farms ideal places for antimicrobial-resistant mutations to develop and spread among animals and workers alike.[28] Antimicrobial use is increasingly common in aquatic animal agriculture as well, and novel pathogens can easily develop and spread among aquatic animals, too. Moreover, these pathogens can affect not only farmed aquatic animals but also wild aquatic animals, given how frequently these populations interact in practice.[29]

Now take deforestation. Like factory farming, deforestation has a massive impact on global health in general. Forests contain not only many animals but also 80% of all terrestrial species.[30] So, when we clear forests for animal agriculture or other purposes, we kill many animals and drive many species to extinction. The resulting biodiversity loss can, in turn, affect everything from the air that we breathe to the water that we drink to the land that we farm. And while these environmental changes can be problematic for everyone, they can be particularly problematic for the roughly 250 million humans who live in or near forests, many of whom depend on clean water not only for drinking but also for growing food. So, when deforestation pollutes the water, it can make it harder for many people to survive.[31]

Deforestation also increases the risk of pandemics in several related ways. First, when we clear forests, we are more likely to interact with the wild animals who live there, both because we encroach on their habitats and because, as a result, we might force them to encroach on ours.[32] Second, biodiversity not only supports ecosystem services on which humans and nonhumans depend but also suppresses disease spread within nonhuman populations. For example, when deforestation reduces mosquito and snail biodiversity, the mosquitos who survive tend to be better at transmitting malaria, and the snails who survive tend to be better hosts for parasitic flatworms.[33] So, insofar as deforestation supports biodiversity loss, it also increases the risk that diseases will spread both within and beyond nonhuman populations.

Finally, take the wildlife trade. Like factory farming and deforestation, the wildlife trade has a massive impact on global health in general. In many cases we sell animal products as medicine when, in fact, they have no medicinal value, or we use animals as research subjects when, in fact, they are poor models for human health. These practices not only harm nonhumans but also harm humans by subjecting them to inadequate medical care. More generally, as with other uses of animals, the wildlife trade forces many captive animals to live in cramped, toxic conditions. This exposes these animals to increased risk of illness, and it also exposes many other humans and nonhumans to similar risks, both because of diseases that captive animals already carry and because of diseases that they contract in captivity.

Additionally, and relatedly, the wildlife trade also increases the risk of pandemics in several ways. First, as COVID-19 possibly illustrates, when we capture and transport animals, we risk introducing zoonotic diseases to novel populations, including human, domesticated animal, and wild animal populations. And when we keep and kill wild animals in close proximity to other human and nonhuman animals, we once again create ideal conditions for diseases to develop and spread.[34] Second, since humans attach a higher economic value to endangered species than to nonendangered species, our economic incentive to target particular animals increases as they become more endangered. As a result, the wildlife trade can contribute to biodiversity loss, which, as we have seen, can contribute to pandemics as well.

Importantly, many of these animal welfare and global health impacts are linked. For example, when we keep animals in cramped, toxic environments, we both make them suffer more and make them more likely to become sick and make others sick. Similarly, part of why animal agriculture increases the risk of pandemics is that it increases the risk that diseases will develop and spread. But another part of why it increases this risk is that it contributes to deforestation, which has similar effects. This is why, whenever people call for slowing or stopping deforestation, they are also, whether they know it or not, calling for slowing or stopping animal agriculture, since there is no way to meaningfully slow or stop deforestation—at least not at the scale that we need—without doing the same for animal agriculture.[35]

3.5. Why our treatment of animals matters for climate change

We will likely see at least a 2–4 degrees Celsius increase in global average temperatures above preindustrial levels by the end of the century.[36] And even if we can limit climate change to this increase, it will still have a massive impact on the planet. For instance, it will likely cause melting ice caps; rising sea levels; flooding coastal cities; an increase in the frequency and intensity of extreme weather events; and regional conflicts over land, water, energy, and food.[37] Like pandemics, climate change will also be a threat multiplier that exacerbates existing problems, making it even harder for people to meet basic needs.[38] The question that we must now ask is: How does human exploitation and extermination of nonhuman animals, this time focusing on factory farming and deforestation, contribute to climate change?

Factory farming has a massive impact not only on animal welfare and global health but also on the environment. Animal agriculture is incredibly inefficient, consuming about 83% of all farmland and about 56% of all freshwater yet producing only about 18% of all calories.[39] It also contributes to industrial fishing, since, for example, we feed wild-caught fishes to many farmed fishes.[40] Industrial fishing, in turn, causes further harm to the environment. For example, when we drag nets along the ocean floor, we not only kill animals but also release sediment into the water, disrupting food chains. And when we place explosives and poisons in the water, we produce similar effects.[41] As a result of these inhumane, unhealthful, and unsustainable practices, many targeted species are likely to go extinct by 2050.[42]

Factory farming is also a leading contributor to human-caused climate change. In general, animal agriculture is responsible for an estimated 9% of carbon dioxide emissions, 37% of methane emissions, and 65% of nitrous oxide emissions. As a result, this industry is responsible for an estimated 14.5% of total greenhouse gas emissions on a 100-year timescale, as well as much higher percentages on much shorter timescales. Why is animal agriculture responsible for different percentages on different timescales? The reason is that methane and nitrous oxide trap heat more effectively than carbon dioxide, and they also stay in the atmosphere for less time. So, when we estimate our

climate impacts on shorter timescales, the estimated contribution that animal agriculture makes to our total climate impacts will be higher.[43]

As with factory farming, deforestation has a massive impact on the environment in general. We have already seen how clearing forests can increase biodiversity loss, which can impact the air, land, and water. But we should also note that some methods of clearing forests can amplify this effect, either intentionally or, at least, foreseeably. For example, a common method of clearing forests is controlled fires. But as the 2019 Amazon wildfires illustrate, controlled fires are not always as controlled as the name suggests. Slash-and-burn agriculture, which involves the use of fire to clear land for crops and farmed animals (in this case primarily cows[44]) can easily spiral out of control. When it does, it can cause much more damage than was intended, both for Indigenous humans and for nonhuman animals.[45]

Like factory farming, deforestation is also a leading contributor to human-caused climate change. Forests are carbon sinks, which means that they absorb more carbon than they release. Indeed, while humans might be working to develop new technologies to capture and store carbon, we still have yet to develop a technology that can do so as efficiently as trees.[46] As a result, when we cut down trees, we not only release stored carbon into the atmosphere but also make it harder for the planet to capture and store carbon in the future.[47] And of course, forests are much easier to destroy than they are to create. It only takes weeks to destroy a forest and release carbon into the atmosphere. In contrast, it takes decades to create a forest and absorb carbon from the atmosphere in similar quantities.[48]

As with pandemics, many of these impacts are linked. For example, as we have seen, part of why factory farming contributes to climate change is through direct emissions, but part of why it contributes to climate change is through indirect emissions, via its contribution to deforestation. With that said, there can be trade-offs between these impacts as well. Take factory farming. If all we care about is animal welfare, then we might see fish or chicken farming as worse than beef or dairy farming, since fish and chicken farming harm and kill more individual animals per meal produced. In contrast, if all we care about is climate change, then we might see beef or dairy farming as worse

than fish or chicken farming, since beef and dairy farming emit more greenhouse gases both directly and indirectly per meal produced.

As I will discuss throughout the book, these interactions are why we need to think about welfare, health, and environmental issues holistically and structurally. If all we think about is animal welfare, then we might advocate for replacing chicken with beef in order to reduce animal suffering. In contrast, if all we think about is climate change, then we might advocate for replacing beef with chicken in order to reduce greenhouse gas emissions. But if we think about these issues together, then we can see that we need to replace animal-based foods with plant-based foods in order to reduce both of these harms simultaneously. And if we think about how our current social, political, and economic policies make this substitution hard, then we can pursue policy changes that might make this substitution easier in the future.

Yet even when we think about all of these welfare, health, and environmental impacts holistically and structurally, we are still thinking about only half of the equation. Animals are central to pandemics, climate change, and other global threats not only as causes (through no fault of their own) but also as victims. That is, not only does our exploitation and extermination of animals contribute to pandemics, climate change, and other global threats. But pandemics, climate change, and other global threats then harm animals all over again. Thus, I will argue, we need to think holistically and structurally not only about how to mitigate these threats but also about how to adapt to them. How will pandemics impact animals? How will climate change impact animals? And how will they impact our treatment of animals?

3.6. Why pandemics matter for animals

Consider first why pandemics matter for animals.[49] As we have seen, many nonhuman animals carry zoonotic diseases whether or not humans interact with them. But they might spread these diseases more when we do interact with them. At present, humans are responsible for the two main drivers of emerging infectious diseases in wild animals, namely, exposure to novel domesticated animals via animal agriculture and exposure to novel wild animals via the wildlife trade.[50] And while

many animals can contract particular diseases with no risk of mortality or morbidity, many others might not be so lucky. For example, primates such as bonobos, chimpanzees, gorillas, and orangutans are vulnerable to many of the same respiratory illnesses as humans, and in many cases, they are even more vulnerable than we are.[51]

With that said, most major global changes will have mixed effects, and pandemics are no exception. After all, for each nonhuman population that contracts during a pandemic, another might expand to take its place. For instance, if an outbreak reduces the number of predators in a particular area, then it might increase the number of prey animals in that area, which, in turn, might impact many other animals as well. And since what species and individuals need can come apart, these population changes might be good for some animals and bad for others. For instance, in an area with reduced predator populations, it might be that fewer prey animals suffer and die as a result of predation, but it might also be that more prey animals suffer and die as a result of overpopulation-related starvation, with unclear net effects.

As COVID-19 illustrates, pandemics can impact our treatment of animals in many ways as well. Take farmed animals. During a pandemic, many farmed animals can be vulnerable to infection. Additionally, travel restrictions can disrupt supply chains, making it more expensive to keep animals alive.[52] When these problems arise, a common response is to "cull" farmed animals for either economic or public health reasons. Either way, many farmers implement these "culls" with brutal efficiency, for instance by suffocating animals[53] or burying them alive.[54] Needless to say, these killing methods cause profound suffering. At the same time, since ordinary factory farming causes profound suffering as well, it is unclear whether these changes are good or bad for farmed animals overall, relative to the status quo.

A pandemic can have similarly mixed effects for lab animals. During a pandemic, humans might harm lab animals more in some respects, by exposing them to diseases either intentionally or accidentally, and by conducting harmful, invasive, lethal animal research in the search for a treatment or vaccine. But humans might also harm lab animals less in some respects, since, for instance, physical distancing might slow or stop some "nonessential" animal research. This, however, can still harm some lab animals, since it can lead humans to either neglect

or "euthanize" lab animals for whom we have no current use.[55] As with farmed animals, many lab animals might suffer more as a result of this exploitation, extermination, and neglect. But many other lab animals might suffer less, relative to the status quo.[56]

Similar remarks apply to animals in zoos. On one hand, a pandemic can be bad for zoo animals in some respects, both because humans can expose these animals to diseases and because physical distancing can lead to reduced attendance, which can lead to less revenue and, in many cases, worse animal care. On the other hand, a pandemic can also be good for zoo animals in some respects, since smaller crowds can reduce stress—though also, potentially, increase boredom[57]—for many animals. Since zoos vary in quality, the net effects will likely vary as well. In cases where zoos can continue to care for animals even with reduced attendance, the net effect might be positive, at least relative to the status quo.[58] But in cases where they cannot, the net effects will likely be negative, even relative to the status quo.[59]

The same can be true for companion animals. On one hand, a pandemic can be bad for companion animals in some respects, since rates of abandonment can increase, either because humans see animals as carriers or because they lack the resources to care for them.[60] Physical distancing can also lead to increased interaction with companion animals, which can lead to increased abuse. On the other hand, a pandemic can also be good for companion animals in some respects, since rates of adoption can increase, and since increased interaction can also lead to increased affection.[61] As with zoo animals, the net effects for companion animals will likely be mixed, relative to the status quo. And even though many companion animals currently fare better than many other animals, the status quo is far from ideal in this case, too.

These considerations all apply, in different ways, to wild animals, as well. On one hand, during a pandemic, humans might not only spread diseases to wild animals but might also exploit and exterminate wild animals more. For example, insofar as we see animals as cures, we might harm or kill them in the search for a treatment or vaccine.[62] Insofar as we see wild animals as carriers, we might label them as "pests" and kill them in self-defense.[63] And when we lose the ability to make ends meet through relatively humane work, such as tourism, we might choose to make ends meet through relatively inhumane work,

such as hunting or poaching.[64] While nobody can be faulted for doing what they need to do to survive (within certain limits of course), the toll that this activity can take on wild animals is substantial.

On the other hand, during a pandemic, humans might also exploit or exterminate some wild animals less. In the same way that physical distancing can lead to more interactions with companion animals, it can also lead to fewer interactions with wild animals.[65] This can lead us to help wild animals less,[66] but it can also lead us to harm wild animals less, for instance through harassment, intentional violence, or unintentional violence such as vehicle collisions.[67] Indeed, during COVID-19, many stories about wild animals reclaiming "human" spaces went viral. Some stories, such as about elephants wandering through a Yunnan village and dolphins swimming in Venetian canals, were fake.[68] But others, such as about coyotes exploring San Francisco and goats exploring Wales, appear to have been real.[69]

3.7. Why climate change matters for animals

Climate change will likely have similar effects, in that it will likely harm many animals directly, via changes in the environment, and many others indirectly, via changes in human and nonhuman behavior. Human activity is already driving many species to extinction; according to one recent estimate, current extinction rates are about 1,000 times higher than the background extinction rate, and future rates are likely to be about 10,000 times higher.[70] As a result, many researchers believe that we are now entering the sixth mass extinction on this planet, and that half of all species could go extinct by the end of the century.[71] Climate change will likely make a substantial contribution to this biodiversity loss, by changing environments too much, and too fast, for many species to be able to adapt or relocate.[72]

But as with pandemics, climate change will likely produce both winners and losers in nonhuman populations. For example, since many insects and parasites thrive in warmer climates, some insect and parasite populations might expand on a warmer planet, with increased benefits and harms for these and other animals. More generally, we might find that climate change favors r-strategists—that is,

animals with shorter lifespans, smaller bodies, and higher reproduction rates—over K-strategists—that is, animals with longer lifespans, larger bodies, and lower reproduction rates, all else equal. We might also find that climate change favors adaptive generalists—that is, animals who can survive in a relatively wide range of environments—over niche specialists—that is, animals who can survive only in a relatively narrow range of environments, all else equal.[73]

Climate change is already having many of these impacts. Together with other human-caused environmental changes, ranging from deforestation and development to air and noise pollution, changing temperatures are profoundly disrupting terrestrial ecosystems. Many animals are leaving home in search of new habitats. Aardvarks in the Kalahari are starving because of increasing drought.[74] Black bears in the United States are unable to hibernate because warming temperatures are waking them up and preventing them from going to sleep.[75] The Australian mosaic-tailed rat is extinct because of rising sea levels.[76] And as the Australian bushfires illustrate, billions, if not trillions, of wild animals have likely already died in climate change–related natural disasters such as fires and floods.

Importantly, climate change can impact captive animals, particularly farmed animals, in some of the same ways (as well as in some of the same ways that pandemics do).[77] For example, changing weather patterns can disrupt food and water availability, and when this happens, farmers will be more likely to feed animals less, clean cages less, or "cull" animals more. Warmer weather can also increase the spread of disease by making animal farms even more ideal places for diseases to develop and spread than they already are. And climate change–related natural disasters can threaten farmed animals both directly, by destroying facilities, and indirectly, by disrupting supply chains. For instance, in 2018, Hurricane Florence killed at least 3.4 million farmed chickens in North Carolina alone.[78]

Climate change will likely have similar impacts on aquatic animals. Together with other human-caused environmental changes, ranging from ocean floor dredging to water and noise pollution, changing temperatures are already profoundly disrupting aquatic ecosystems. Warmer water is less oxygenated, and while some animals, such as jellyfishes, can thrive in such conditions, many other animals cannot.[79]

Warmer water also increases ocean acidity, making it harder for shellfishes to form shells.[80] And it allows parasites to spread, making some animals more vulnerable to disease.[81] Changing weather patterns can disrupt water quality, too. For instance, changes in rain can affect salinity in water, which can harm some animals by limiting reproduction and help other animals by reducing competition.[82]

Importantly, climate change can impact captive aquatic animals, particularly farmed aquatic animals, in many of the same ways as well. Changing temperatures can increase fish suffering by decreasing oxygen supply, and changing weather patterns can increase fish suffering by altering salinity levels and increasing vulnerability to disease. Moreover, as with farmed land animals, changing weather patterns can disrupt food and water availability, and when this happens, farmers might feed fishes less, which can increase aggression, and they might also change water less, which can increase ammonia levels, disease spread, and, possibly, antimicrobial use. Likewise, natural disasters can threaten farmed aquatic animals both directly, by destroying facilities, and indirectly, by disrupting supply chains.[83]

Finally, climate change can alter human treatment of nonhumans. On one hand, in a world reshaped by climate change, there is a risk that humans will harm many animals more and help many animals less. Climate change, like pandemics, is a threat multiplier. When resource scarcity increases for humans, we might exploit nonhumans more in order to meet our needs. And when resource scarcity increases for nonhumans, they might travel into "human spaces" more in order to find food, water, and shelter, at which point we might call them "invaders" and "exterminate" them. We all know that climate change will produce climate refugees, and that climate refugees will be vulnerable to many threats, including violence. What we now need to appreciate is that climate refugees can be nonhuman, too.[84]

On the other hand, in a world reshaped by climate change, there is also an opportunity for humans to harm many animals less and help many animals more. Both pandemics and climate change are reminders that our current social, political, and economic systems are deeply inhumane, unhealthful, and unsustainable. As we change these systems to mitigate and adapt to future health and environmental threats, we have the opportunity to include other animals in

these efforts. Will we take this opportunity? This is up to us. There are some grounds for optimism. For example, many people now support reducing meat consumption, and many people supported wildlife conservation in the wake of the Australia bushfires. While these efforts might not be enough, they are also better than nothing, and a good starting point.[85]

3.8. One Health and the Green New Deal

With that in mind, consider how we might include animals in our responses to pandemics and climate change. In general, our available responses to these threats fall into two categories. First, we can *mitigate* these threats by reducing the extent to which they arise in the first place. Second, we can *adapt* to these threats by reducing the extent to which they impact us when they do arise. And since pandemics and climate change are threat multipliers, we can also, as part of our adaptation efforts, address the threats that they make worse. The more we all have reliable access to food, water, healthcare, income, and other such basic goods, the more resilient we can be when pandemics and climate change introduce shocks to the system. This is why health and environmental justice require social and economic justice as well.

As a result of these considerations, many people are now promoting policy frameworks such as One Health for addressing pandemics and other health threats. One Health, as defined by the U.S. Centers for Disease Control and Prevention, is a "collaborative, multisectoral, and transdisciplinary approach—working at the local, regional, national, and global levels—with the goal of achieving optimal health outcomes recognizing the interconnection between people, animals, plants, and their shared environments."[86] One Health seeks to reduce the threat of outbreaks in part by emphasizing the links between human and nonhuman health. The more we learn about nonhuman health, the more we can learn about human health. And the more we promote nonhuman health, the more we can promote human health.[87]

But while One Health is a promising framework, we need to do much more than we currently are to realize its potential. First, we need to do much more than we currently are to adequately promote human

health. For instance, insofar as proponents of One Health note the links between factory farming and global health threats, they tend to call for *improving* factory farming much more than they tend to call for *reducing* it, and some even call for *not* calling for reducing it.[88] But this conservative approach to global health policy substantially limits how much we can accomplish for humans, since, as we have seen, there is no way to breed, raise, and kill more than 100 billion farmed animals per year without contributing to many of the global health threats discussed throughout this chapter.

Second, we *especially* need to do much more than we currently are to adequately promote nonhuman health, since we currently treat nonhuman animals as means to human ends rather than as ends in themselves.[89] For instance, insofar as proponents of One Health note the links between disease spread in human populations and disease spread in nonhuman populations, they tend to call for improving nonhuman health outcomes only when that seems to be the best way to improve human health outcomes, too. But this instrumentalizing approach to health policy substantially limits how much we can accomplish for nonhumans since, as we have seen, there are many ways to reduce disease spread in human populations that neglect, harm, and kill nonhuman populations unnecessarily.[90]

Similarly, many people are now promoting policy frameworks such as the Green New Deal for addressing climate change and other environmental threats.[91] As introduced by U.S. Senator Edward Markey and Representative Alexandria Ocasio-Cortez in 2019, the Green New Deal seeks to reduce the threat of climate change in part by improving our basic infrastructure, including our food, energy, and transportation systems, to be more sustainable and resilient.[92] Additionally, the Green New Deal seeks to address many of the ordinary threats that climate change will amplify, for instance by promoting social and economic justice for marginalized communities, and by ensuring that people who currently work in unsustainable industries can transition to jobs in other, more sustainable industries instead.

But as with One Health, while the Green New Deal is a promising framework, we need to do much more than we currently are to realize its potential. First, we need to do much more than we currently are for humans. For example, the Green New Deal proposal is much less clear about the need for radical change in agriculture than about the need for radical change in

energy and transportation. Insofar as the proposal addresses agriculture at all, it mainly commits to "building a more sustainable food system that ensures universal access to healthy food." But even though achieving this goal requires substantially reducing meat production, the proposal never discusses meat at all. Instead, it simply commits to "working collaboratively with farmers and ranchers" to improve our food system.[93]

Second, we *especially* need to do much more than we currently are for nonhumans since, once again, we currently treat nonhuman animals as means to human ends rather than as ends in themselves. For example, the Green New Deal proposal discusses the need to "enhance biodiversity and support climate resiliency," but it never discusses the need to support animals at all. Yet as we have seen, enhancing biodiversity is not necessarily the same as supporting animals. Whereas some conservation methods might be net positive for animal welfare, others might be net negative. Similarly, supporting climate resilience for humans is not necessarily the same as supporting climate resilience for nonhumans. While some infrastructure changes might be net positive for humans and nonhumans alike, others might not be.

So, if the moral framework that I developed in Chapter 2 is at least roughly correct, then the question that we need to ask is: What kind of health and environmental policy framework would be adequate to address the health and environmental threats that humans *and* nonhumans will face in a world reshaped by human activity? Insofar as human use of nonhuman animals contributes to pandemics and climate change, any adequate answer to that question will involve substantially reducing our use of animals as part of our mitigation efforts. And insofar as pandemics and climate change contribute to nonhuman suffering and death, any adequate answer will also involve substantially increasing our support for animals as part of our adaptation efforts. But what might that mean more concretely?

3.9. Including animals in One Health and the Green New Deal

If we want to adequately address the health and environmental threats that humans and nonhumans will face in the Anthropocene, then

we will need to include animals in health and environmental policy frameworks in at least four respects. First, insofar as we seek to mitigate health and environmental threats such as pandemics and climate change, we will need to reduce our use of animals as part of these efforts. As we have seen, factory farming, deforestation, and the wildlife trade are leading contributors to pandemics, and factory farming and deforestation are leading contributors to climate change. And while reforming these practices can help, it will not help nearly enough to protect us from these threats. We will need to reduce these practices substantially as well, if not abolish them entirely.

Second, insofar as we seek to adapt to health and environmental threats such as pandemics and climate change, we will need to increase our support for animals as part of these efforts. As we have seen, pandemics, climate change, and other such threats will cause substantial harm to nonhuman populations. When an outbreak occurs, animals can be vulnerable to disease, and they can also be vulnerable to increased exploitation and extermination. Similarly, when environmental changes occur, animals can be vulnerable to extreme weather events, and they can also be vulnerable to increased exploitation and extermination. And while protecting biodiversity can help, it will not help nearly enough to protect animals. We will need to increase support for animals substantially as well.

Third, insofar as pandemics and climate change are threat multipliers, we will need to do this work *comprehensively*, by protecting nonhumans not only from the new threats that human activity creates but also from the ordinary threats that human activity amplifies. For example, when we clear land for agriculture or development, we not only expose nonhuman animals to novel threats, such as the threat of collisions with vehicles, but also expose them to increased natural threats, such as hunger, thirst, illness, and injury that result from the need to compete for scarce resources, the need to migrate in search of a new home, or the need to commute every day in search of food or water. Insofar as we are increasing these threats for animals, we have a moral duty to help them in these respects as well, where possible.

Fourth, insofar as health and environmental threats are linked with each other, as well as with our basic social, political, economic, and ecological systems, we will need to pursue these changes *holistically* and *structurally*. For instance, if we attempt to address pandemics, climate

change, and other such threats separately, then we risk pursuing changes that reduce some harms while increasing others (for instance, by replacing beef with chicken, or vice versa) rather than changes that reduce harms across the board. Similarly, if we attempt to address pandemics, climate change, and other such threats without attempting to alter our basic systems, then we risk limiting how much progress we can make, since our current systems incentivize harmful practices and disincentivize less harmful alternatives in a variety of ways.

With that said, this work will be challenging in many ways, and one challenge is worth noting now. In the Anthropocene, we might not always be able to tell whether human activity is complicit in particular harms to nonhuman animals. For example, we know that climate change will increase the frequency and severity of fires and floods, but we might not know whether climate change is responsible for any particular such event. Similarly, we know that climate change will increase competition over scarce resources, but we might not know whether climate change is responsible for any particular such conflict. This raises a question: If we have a duty to reduce and repair human-caused harms, and if we have no idea whether or to what degree particular harms are human-caused, what should we do about these harms?

Consider two possible answers to this question. First, we might think that in cases of uncertainty about whether human activity is complicit in particular harms, we should assume that it is, and, so, we should assume that we have a duty to reduce and repair these harms, provided that we can do so ethically and effectively. Granted, we might think that we should prioritize harms that are *definitely* human-caused over harms that are only *possibly* human-caused, all else equal. But even if so, we might still think that we should address all of these harms to the extent that we reasonably can. We might also think that we should prioritize the latter harms over the former harms in at least some cases—for instance, because the latter harms are much more important, neglected, or tractable, all things considered.

Second, we might think that in cases of uncertainty about whether human activity is complicit in particular harms, we should assume that human activity is complicit in some but not all of them, and, so, we should assume that we have a duty to reduce and repair some but not all of them. For instance, we might think that if our current "human"

world is worse for animals than a "natural" world would have been, then we have a duty to help animals enough to close this gap, but no duty to help them beyond that. In one sense, this approach would be less demanding, since it would allow us to assume that we are complicit in less harm. But in another sense, this approach would be more demanding, since it would require us to compare actual and counterfactual levels of harm, which is difficult to do well.

This issue matters a lot in one sense and not that much in another sense. On one hand, it might matter a lot in the long run, since we might eventually develop the knowledge, power, and political will that we need in order to (a) tell the difference between what these approaches require, and (b) do what our favored approach requires. On the other hand, it might not matter much in the short term, since we are not anywhere near that point yet. At present, we have no way of reliably comparing actual and counterfactual levels of harm in the world, and we also have no way of reliably reducing and repairing more than a tiny fraction of harm in the world. So as long as we think that a "human world" *might* be worse for animals than a "natural world," we simply need to reduce and repair as much harm as we can for now.

It is also worth emphasizing that, if the moral framework that I developed in Chapter 2 is at least roughly correct, then a moral duty to reduce and repair harm can follow from more than complicity. Insofar as we think about what to do as consequentialists, we might think that we should simply work to prevent as much harm as we reasonably can, without sacrificing anything comparably significant. And insofar as we think about what to do as nonconsequentialists, we might think that we should at least work to prevent levels of harm that exceed our harm thresholds, without sacrificing anything sufficiently significant. In any case, my aim in what follows will not be to settle these issues but will rather be to discuss what we can do in the short term so that we can be better equipped to settle these issues in the long run.

3.10. Conclusion

We see it all come full circle. Human exploitation and extermination of nonhumans is contributing to pandemics, climate change, and

other global changes, and these global changes are, in turn, contributing to biodiversity loss and animal suffering. As a result, humans are harming and killing trillions of humans and nonhumans each year directly, and we are potentially harming and killing orders of magnitude more humans and nonhumans indirectly. Yet in most scenarios, there are winners and losers. A world reshaped by human activity will harm many humans and nonhumans. But it will benefit many as well. Likewise, particular mitigation and adaptation efforts will benefit many humans and nonhumans. But they will harm many as well, especially if we consider only some individuals when deciding what to do.

In general, then, our expanding influence on the planet can be a source of pessimism as well as a source of optimism. We are increasingly complicit in human and nonhuman suffering and death, but we are also increasingly complicit in human and nonhuman happiness and life, and the decisions that we make moving forward will determine not only how complicit we are but also in what we are complicit. I will not take a stand on how much power we should attempt to wield in this book; I am open to the possibility that we should attempt to wield more as well as less. Instead, I will argue that we morally ought to consider humans and nonhumans alike when deciding whether and how to wield power. And I will examine what a commitment to considering humans and nonhumans alike might mean in practice.

In particular, I have argued that we should pursue policy frameworks such as One Health and the Green New Deal that seek to build social, health, and environmental justice holistically, structurally, and comprehensively. But I have also argued that we should include animals in these efforts, not only as means to these ends but as part of these ends. We have a moral duty to reduce our use of nonhumans not only for the sake of humans but also for the sake of nonhumans. And we have a moral duty to increase our support for nonhumans not only for the sake of humans but also for the sake of nonhumans. And for both humans and nonhumans, we have a moral duty to do this work by addressing not only the new threats that pandemics and climate change introduce but also the existing threats that they amplify.

In Chapter 4, I will test the parameters of this conclusion by considering two general objections that people might have to the project of including animals in health and environmental advocacy and

policy: the objection that this project is futile, and the objection that this project is too demanding. As we will see, these concerns are reasonable, but they are not reasons to exclude animals. Instead, they are reasons to include animals thoughtfully. I will then, in Chapter 5, consider concrete steps that we can take toward including animals in health and environmental advocacy and policy. Finally, in Chapters 6–8, I will consider a series of questions about politics, well-being, moral status, creation ethics, and population ethics that we need to answer in order to make our duties regarding animals more concrete.

4
Limits on inclusion for animals

4.1. Introduction

To many, it might seem both clearly right and clearly wrong that we should include animals in health and environmental advocacy and policy. On one hand, it might seem clearly right that, if our use of nonhumans is contributing to health and environmental problems, then we morally ought to reduce our use of nonhumans as part of our mitigation efforts. It also seems clearly right that if human-caused health and environmental problems are harming and killing nonhumans unnecessarily, then we morally ought to increase our support for nonhumans as part of our adaptation efforts. These conclusions follow naturally from the idea that we should pursue our goals ethically and effectively, combined with the idea that if we harm animals unnecessarily, and if we have the power to reduce or repair this harm, then we should.

On the other hand, it might seem clearly wrong that we could be morally required, or even morally permitted, to take all necessary means to this end. After all, our use of nonhuman animals pervades our basic social, political, and economic structures. So reducing our use of nonhuman animals would seem to require radical structural change. Moreover, we are directly harming and killing trillions of nonhuman animals per year, and we are likely indirectly harming and killing many more. So increasing our support for nonhuman animals would seem to require supporting as many sentient beings as possible directly and many more than that indirectly. But not only does it seem futile to attempt to make such radical changes to our basic structures. It also seems too demanding to be morally required in practice.

My aim in this chapter is to consider these objections to the idea of including animals in health and environmental advocacy and policy, starting with the futility objection and then turning to the

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demandingness objection. In each case, my reply will be roughly the same. Including animals in health and environmental advocacy and policy is not always futile or demanding. And even when it is, it might still be morally required, on consequentialist grounds, nonconsequentialist grounds, or, in a pluralistic moral framework, both. Granted, we can and should set goals that are achievable and sustainable in practice. But we should not assume that our current intuitions about achievability and sustainability are accurate. We can do more than we currently think, and we should try to do more than we currently are.

With that said, as I will emphasize throughout this chapter, I do think that each of these concerns is reasonable, and that we should take it seriously in practice. Humans have a history of taking on more ambitious projects than we should, given our epistemic, practical, and motivational limitations. When we do, we can easily do more harm than good, both to ourselves and to others, including the subjects of our intended beneficence. Our long history of colonialism, imperialism, and anthropocentrism are testaments to our bias, ignorance, and arrogance. Clearly there is a risk that we will continue this pattern in the future, as we expand the moral and political circle to include nonhuman animals. What we need to do, I will argue, is take our limitations seriously without treating them as an excuse for inaction.[1]

4.2. The futility objection

Start with the futility objection. Why might we think that including animals in health and environmental advocacy and policy is futile? There are at least two reasons. First, we might think that including animals in health and environmental advocacy and policy is *politically* futile, because it will alienate people from our work, dooming it to failure. Consider mitigation. The uses of animals that contribute to pandemics and climate change are central to modern life. If we insist that mitigating pandemics and climate change requires changing these practices, then people will be less likely to support mitigation in general. I suspect that this is part of why supporters of the Green New Deal tend to focus more on energy and transportation than on

food. They worry that an equitable focus on all three systems would diminish support for the project.

Similarly, consider adaptation. The scale of nonhuman need in the world is massive. Additionally, the scale of conflicting need between humans and nonhumans in the world is massive. If we insist that adapting to the effects of pandemics and climate change requires increasing support for nonhuman animals, then, once again, people will be less likely to support adaptation in general. I have no idea why supporters of the Green New Deal tend to focus on humans. It might be that the possibility of considering nonhumans never occurs to them. But even if it did occur to them, I suspect that they might still focus mostly on humans for the same reason that they focus mostly on energy and transportation: They might worry that an equitable focus on humans and nonhumans would diminish support for the project.

Second, we might think that including animals in health and environmental advocacy and policy is *practically* futile, because, even if it was politically achievable, it would still be unlikely to make a positive difference for humans, animals, or the environment overall. Consider mitigation. Economies are complex and interconnected, and when we attempt to reduce some harms, we can easily increase others as a result. For example, suppose that we reduce support for beef and dairy production. The result might be an increase in support for chicken or fish production, with equally bad or worse impacts overall. Similarly, suppose that we reduce support for animal agriculture in some nations. The result might be an increase in animal agriculture in other nations, with equally bad or worse impacts overall.[2]

Similarly, consider adaptation. Like economies, ecologies are complex and interconnected, and when we attempt to reduce some harms, we can easily increase others as a result. For example, suppose that we prevent koalas from dying in a fire. We might find that this intervention helps them in the present while harming them in the future, by exposing them to other human threats, such as deforestation or development, other nonhuman threats, such as predation or parasitism, or other natural threats, such as hunger or thirst. Similarly, and more generally, we might find that helping some animals now might harm other animals later, by making them into a meal, by depriving them of

a meal, or by altering complex food chains, natural cycles, or other natural systems on which many animals depend.[3]

Why might the apparent futility of including animals in health and environmental advocacy and policy matter? First, we might think that, if multispecies advocacy and policy are politically futile, then we are not morally required to pursue them. And if multispecies advocacy and policy would undermine other, more moderate and achievable political goals, then we might not even be morally permitted to pursue them. For example, if a Green New Deal that focuses more on energy and transportation than on food has a higher chance of passing than a Green New Deal that focuses on all three, then, we might think, we should attempt to pass the former version rather than the latter. Granted, meat production causes harm, too. But it would be a mistake to make the perfect (or, at least, the better) the enemy of the good.

Second, we might think that even if multispecies advocacy and policy are politically feasible, if they might do as much harm as good overall, then we are not morally required to support them. And if multispecies advocacy or policy might do more harm than good overall, then we might not even be morally permitted to pursue them. For example, if reducing support for local beef and dairy harms local beef and dairy producers without making any difference at all for global meat production (because of substitution effects), then, we might think, we should not attempt to reduce support for local beef and dairy even if we could. Granted, such a policy might reduce some local harms, too. But it would be a mistake to pursue a policy that simply trades some local harms for others without making a difference beyond that.

The futility objection is worth taking seriously. Even in ideal circumstances, there would be limits on what we could politically achieve. This is especially true in liberal democratic systems, since liberal democratic systems have a natural bias in favor of local, short-term, individual interests, due in part to electoral feedback loops. And current circumstances are far from ideal. Bias, ignorance, self-interest, propaganda, polarization, voter suppression, and other forces substantially limit what we can achieve and sustain at present. In order to make progress in such a context, we need to build broad, pluralistic coalitions around moderate goals. And when we start thinking in these

terms, we might decide that we should limit our aspirations in health and environmental advocacy and policy in the spirit of pragmatism.

Additionally, even in ideal circumstances, there would be limits on what we could practically achieve. There is no reason to expect that we could ever fully predict or control global systems. And current circumstances are, once again, far from ideal. Humans are all too willing to interfere with complex systems that we barely understand to improve them according to our own standards. When we embark on such projects, our intentions might be good, but our impacts can still be bad, and can reveal a worrying degree of arrogance. In order to make progress in such a context, we need to consider not only intended local impacts but also unintended global impacts. And when we start thinking in these terms, we might decide that we should limit our aspirations in health and environmental advocacy and policy in the spirit of humility as well.

4.3. Including animals is not always futile

But while the futility objection might be a reason to act thoughtfully, it is not a reason not to act. First, including animals in health and environmental advocacy and policy is not always politically futile. Consider mitigation. Many people support using animals less, even if they disagree about how much use is morally permissible, and even if they participate in some animal use themselves. Thus, for example, while it might be politically futile to attempt to ban factory farming overnight, it might not be politically futile to attempt to ban, tax, or regulate particular factory farming practices, especially practices that harm humans, nonhumans, and the environment at the same time. Having made these changes, we might then be able to expand these bans, taxes, or regulations to other practices in the future.

Similarly, consider adaptation. Many people support helping animals more, even if they disagree about how much help is required, and even if they do not participate in efforts to help animals themselves. For example, while it might be politically futile to attempt to extend full legal and political status and representation to all animals overnight, it might not be politically futile to attempt to extend at least

some legal or political protections to at least some animals, especially in cases where improving the legal and political status of nonhumans has positive effects for humans as well. Having made these changes, we might then be able to make further changes that benefit nonhumans without burdening humans at all, as well as, eventually, changes that benefit nonhumans without burdening humans much.

Moreover, while radical advocacy and policy might be less likely to succeed than moderate advocacy and policy at present, they might still be likely enough to succeed to be worth supporting. After all, insofar as we are making decisions about what to support through harm-benefit analysis, we have to evaluate each approach by multiplying the *probability* of success by the *impact* of success. When we do, we might find that supporting relatively radical approaches sometimes does more good than supporting relatively moderate approaches in expectation, since the higher impact of success might offset the lower probability of success. Of course, this does not mean that we should attempt to build a multispecies utopia overnight. But it might mean that we should accept at least some risk tolerance in our work.

For similar reasons, including animals in health and environmental advocacy and policy is not always practically futile. Many methods of making our global economy more humane, healthful, and sustainable can be net positive. While we might have net negative effects if we consider only some of the impacts of our food policies, we are more likely to have net positive effects if we consider all of the impacts of our food policies holistically. For example, instead of simply promoting food systems that reduce animal welfare, public health, *or* environmental harms, we can promote food systems that reduce all three. And, instead of simply promoting these food systems locally, we can also support efforts to promote them globally, so that we can reduce the harms caused by food production throughout our global economy.[4]

Similarly, many methods of making our global ecology safer for animals can be net positive. While we might have net negative effects if we consider only some of the impacts of our interventions in nature, we are more likely to have net positive effects if we consider all of the impacts of our interventions in nature holistically. For example, instead of simply advocating for saving koalas from fires, we can also advocate for saving koalas from hunger, thirst, illness, and injury in

general. And instead of simply supporting koalas in these respects, we can support all animals impacted by human activity in these respects, so that we can reduce and repair the harms that humans cause animals (including the harms that we cause some animals through our efforts to help these or other animals) throughout our global ecology.[5]

Moreover, while attempts to intervene in complex global systems might still carry risks, we have to compare the risks of action with the risks of inaction. For instance, if we attempt to improve wild animal welfare, then we risk imposing new harms on wild animals. However, if we do not, then we risk allowing all the harms that we are already imposing on wild animals to play out in slow motion. When we frame our choice situation this way, we can see that human-caused wild animal suffering is a risk whether we intervene or not, and so the only question is how to reduce and repair this suffering as thoughtfully as possible. As before, this might not mean that we should attempt to build a multispecies utopia overnight. But it might mean that we should accept at least some risk tolerance in our work.

Generally speaking, then, the fact that our actions might cause harm is not a reason not to act, but is rather a reason to act strategically, holistically, and structurally. First, we should act strategically, by researching how we can spend our limited time, energy, and money as effectively as possible. In some cases, this might mean devoting our time and money to relatively moderate or local changes, for example by attempting to regulate harmful practices within our own nation. In other cases, it might mean devoting our time and money to relatively radical or global changes, for example by attempting to abolish harmful practices within our own nation or by supporting a balance of moderate and radical efforts in other nations. Either way, we should make this choice strategically, rather than by simply doing what we prefer.[6]

Second, we should act holistically and structurally. If the problems that we face are linked, then our solutions must be linked, too. This is why I think that One Health and the Green New Deal are such powerful policy frameworks, because they remind us that we need to promote human, nonhuman, and environmental health in an integrated manner, as well as that we need to pursue social, economic, and environmental justice in an integrated manner. No single action or policy

can address all relevant harms by itself. But if we coordinate as much as possible across issues and movements, then we can maximize the probability that our work will address not only the harms that our current activity is creating or amplifying but also the harms that our attempts at mitigation or adaptation might create or amplify.

4.4. Even when it might be futile, it can still be morally required

Additionally, even if particular methods of including animals in health and environmental advocacy and policy might be futile at present, they can still be morally required. First, consider the indirect effects of including animals. Even if radical advocacy and policy might be politically futile at present, it can still be worthwhile. Radical and moderate advocacy and policy can be mutually supporting. The more we support radical change, the more we shift the center of debate and pave the way for moderate change in the short to medium term. And the more we implement moderate change, the more we shift the goal posts and pave the way for radical change in the medium to long run. In this way, efforts that might be politically futile at present can still play an important role in politically viable work, both at present and in the future.

Similarly, even if radical advocacy and policy might be practically futile at present, it can still be worthwhile. The limits on what we can accomplish are not fixed. The more we include animals now, the more we can build knowledge toward including them effectively in the future, by learning from attempts to reduce animal use and increase animal support effectively. Similarly, the more we include animals now, the more we can build power toward including them effectively in the future, by building an infrastructure that expands the options that are available to us. Finally, the more we include animals now, the more we can build political will toward including them effectively in the future, by normalizing the idea that animals are part of global problems, and that they should also be a part of our solutions.

We should also keep in mind that even if radical advocacy and policy are politically futile at present, they can still be morally important on nonconsequentialist grounds. Advocacy and policy have expressive as

well as practical aims. When we advocate for reducing and repairing human-caused harms, we are not only attempting to bring about positive change. We are also expressing that positive change is morally necessary, because the status quo is harmful and oppressive. That is, we are bearing witness to our harmful and oppressive relationships with vulnerable others, and we are resolving to address this harm and oppression as much as we can. Whether or not these efforts can succeed, they might still be necessary for respecting rights, improving our characters, or improving our relationships.

Similarly, even if radical advocacy and policy are practically futile at present, they can still be morally important on nonconsequentialist grounds. While we might have reason to consider all relevant impacts insofar as we think and act as consequentialists, we might also have reason to consider some impacts more than others insofar as we think and act as nonconsequentialists. In particular, we might have reason to consider harms that we cause relatively directly more than harms that we cause relatively indirectly, via the actions of others. On this view, then, we might have reason to produce less meat even if someone else might produce more meat later on as a result. Or we might have reason to save a koala from a fire even if someone else might kill the koala, or even if the koala might kill someone else, later on as a result.

These considerations remind us how inconsistent we can be in our thinking about these issues. Consider mitigation. Many people think that fossil fuels are unsustainable, and that we should attempt to replace them with sustainable alternatives. When critics then claim that this aspiration is futile, since it will never succeed or since the harms will still occur one way or the other, supporters tend to respond the same way that I do here: It might not be futile, and even if it might be, we should do it anyway. But then, when it comes to food, many of the same people become more impressed with these objections. And while some people might see a relevant difference between, say, food and energy, I suspect that bias, ignorance, and a personal or cultural attachment to meat, dairy, or eggs is part of the story as well.

Similarly, consider adaptation. Suppose that you injure a human accidentally, and you can treat the injury. Should you treat the injury? Of course! It would be ridiculous for you to refuse to help your victim on the grounds that, for all you know, they could be injured in other ways later on, or could injure someone else in other ways later on. Yet when

we consider similar cases involving nonhumans, we lose this intuition to a degree. The difference is that we see humans as individuals with rights, whereas we see nonhumans as interchangeable parts of a whole. To make moral progress, we need to learn to see all sentient beings as individuals with rights. And to do that, we need to resolve to treat all sentient beings with respect and compassion, whether or not we can predict or control all the downstream effects.

As we discussed in Chapter 2, consequentialists and nonconsequentialists alike have reason to accept a pluralistic moral framework that takes all of these considerations seriously. On one hand, in light of our epistemic, practical, and motivational limitations, consequentialists have reason to take nonconsequentialist considerations such as rights, virtues, and relationships seriously as a general matter. When we treat human and nonhuman animals as having interests and rights, when we condition ourselves to see them as subjects rather than as objects, and when we cultivate caring relationships with them rather than oppressive relationships with them, we create the conditions necessary for humans to be able and willing to treat all sentient beings with respect and compassion.

On the other hand, in light of the source, scale, and complexity of animal suffering in the Anthropocene, nonconsequentialists have reason to take consequentialist considerations such as expected impacts seriously as a general matter. For example, even if we think that the harms that we cause relatively directly and foreseeably morally matter more than harms that we cause relatively indirectly and unforeseeably, we might still think that all of these harms matter. And in the Anthropocene, the relatively indirect and unforeseeable harms that we cause can add up. Thus, while including animals in our advocacy and policy might be morally important whether or not it can make a positive difference, we might still have a moral duty to consider the impacts of our work and aspire to do work that can be both ethical and effective.

4.5. Summing up

For these and other reasons, I think that we should include animals in health and environmental advocacy and policy in spite of the possibility of futility. Reducing our use of animals and increasing

our support of animals is not always futile, and even when it might be, it can still be morally required. Insofar as we think and act as consequentialists, we can make our work more effective by thinking strategically, holistically, and structurally. And insofar as we think and act as nonconsequentialists, we can accept that this work might sometimes be morally important, all else equal, on the grounds that it respects rights, cultivates virtues, and builds relationships of care with vulnerable others, whether or not we can show that this activity will be net beneficial for all humans and nonhumans in the long run.

With that said, I do think that we should take the possibility of futility seriously. Insofar as a particular strategy for reducing our use of animals or increasing our support for animals is politically or practically futile at present, that should count against that strategy all else equal (and perhaps all things considered, depending on the details). For example, suppose that U.S. senators work hard on a Green New Deal bill that strikes a good balance between radical and moderate options. Now suppose that someone attaches a total and immediate ban on all factory farms at the eleventh hour, dooming the bill to failure. In this case I would likely agree that this effort does more harm than good. While it might have many benefits, the harm of dooming an otherwise ambitious and viable climate bill would likely outweigh them.

Similarly, suppose that humans attempt to save nonhuman climate refugees by moving them from one environment to another. But suppose that they do this work without sufficient care for animal welfare during capture, transport, and release; without sufficient consideration for how these animals would interact with other animals in this novel environment, both as individuals and as species; and without sufficient consultation with local human communities to ensure that this work would be both effective and publicly acceptable. In this case I would likely agree that this effort does more harm than good as well. While it might have many benefits, the risks that it imposes on a wide range of stakeholders, along with the opportunity costs that any such effort involves, would likely outweigh them.[7]

But even in these cases, the truth is likely somewhere in the middle. For example, while it might be a bad idea to attach a total ban on all factory farms to an otherwise good climate bill, it might not be a bad idea to pursue this goal in other ways. For instance, as we will discuss in

Chapter 5, it might be worth attaching provisions that reduce subsidies for factory farms, increase subsidies for alternatives, and increase regulation of factory farms so that food production can meet higher ethical standards and internalize currently externalized costs. Meanwhile, it might be worth advocating for a total ban on factory farming and introducing bills to that effect in other contexts. This approach can preserve many of the benefits of the other, more radical approach, while mitigating some of the risks.

Similarly, while it might be a bad idea to attempt to relocate nonhuman climate refugees without sufficiently considering what these animals need, what other animals need, what human communities need, or other such factors, it might not be a bad idea to pursue this goal in other ways. For instance, as we will discuss in Chapter 5, it might be worth conducting or supporting research about what all relevant stakeholders need, in consultation with as many of them as possible. On the basis of this research, we can make an informed decision about whether or not we have a viable path forward, and we can then act accordingly. Once again, this approach can preserve many of the benefits of the other, more risk-tolerant approach (including the benefit of learning from experience), while mitigating some of the risks.

When we attempt to strike a balance in these kinds of cases, we should keep in mind that our intuitions about futility are unlikely to be reliable. Consider our intuitions about political futility. Many changes can seem impossible before they happen, and then they can seem inevitable after they happen. Whether looking forward or backward, then, it can be easy to see our current situation as a foregone conclusion. Yet this impression is often inaccurate. Many important changes are neither impossible nor inevitable. Instead, they are possible, but only with hard work and a lot of luck. And we might not know whether a particular change is possible in advance. So we need to be aspirational. Even if a better world might seem difficult or impossible at present, we should do everything we can to test that theory.

Similarly, consider our intuitions about practical futility. On one hand, it can be easy to overestimate our abilities. Many humans think that we can predict and control much more than we can, in part because of hubris and in part because we tend to focus much more on direct, intended impacts and much less on indirect, unintended

impacts. On the other hand, it can also be easy to underestimate our abilities. For all we know, the idea that humans are incapable of reliably improving complex economies or ecologies will appear as amusingly outdated 200 years from now as the idea that humans are incapable of inventing the light bulb appears today.[8] We need to do much more work before we can know what our limits are. And given the harms that humanity is causing, we have a responsibility to do that work.

Thus, in rejecting the idea that including animals is politically and practically futile, I am not rejecting the idea that there are limits to what we can achieve or sustain. I am instead rejecting the idea that these limits are fixed, that we know what they are, and that, in particular, we know that they are so substantial that any attempt to include animals will be unachievable or unsustainable. We already know that pandemics, climate change, and other global threats are collective action problems that require radically new global systems. We have no choice, morally or practically, but to strike a balance between realism and idealism as we attempt to build these systems. And when we do, we have no choice, morally or practically, but to consider human as well as nonhuman animals in our capacity as both causes and victims.

4.6. The demandingness objection

Now consider the demandingness objection. Why might we think that including animals in health and environmental policy is excessively demanding? As with futility, there are at least two reasons. First, we might think that including animals in health and environmental policy involves too many *requirements*. Consider mitigation. Animals are central to our global economy, and, as we have seen, if we simply attempt to reduce our use of animals in some ways, then we can easily do more harm than good. Thus, in order to do more good than harm, we need to attempt to reduce our use of animals in many different ways at the same time. For instance, as we will see, states might need to invest heavily in animal-free sources of food, clothing, research, medicine, entertainment, and other such goods.[9]

Similarly, consider adaptation. Animals are central to our global ecology, and, as we have seen, if we simply attempt to increase our

support for animals in some ways, then we can easily do more harm than good. Thus, in order to do more good than harm, we need to attempt to increase our support for animals in many different ways at the same time. For instance, as we will see, states might need to invest heavily in educational and employment opportunities involving animal care, as well as in social services and infrastructural changes for animals. They might also need to extend basic legal and political standing and representation to animals. In these respects, both mitigation and adaptation might require us to accept additional burdens so that other humans and nonhumans can have additional benefits.

Second, and relatedly, we might think that including animals in health and environmental advocacy and policy involves too many *restrictions*. Consider mitigation. If we want to reduce our use of animals ethically and effectively, then we have to place many additional limits on our activity. For example, as we will see in Chapter 5, states might have to ban, or at least strictly regulate, factory farming, deforestation, and the wildlife trade. And if they do, then we might lose many freedoms that many of us currently enjoy, such as the freedom to eat meat, dairy, and eggs; wear fur, leather, or wool; or spend the weekend hunting, fishing, or trapping. And while many of us might be willing to give up these practices, many others might not be, since they might see these practices as central to their personal or cultural identities.

Similarly, consider adaptation. If we want to increase our support for animals ethically and effectively, then we once again have to place many additional limits on our activity. For example, as we will see in Chapter 5, states might have to consider animals in policy decisions about a wide range of issues, ranging from social services to infrastructure. And if they do, then we might once again lose many freedoms that many of us currently enjoy. Plausibly, humans can have more liberty overall in a society where policy decisions are made primarily or exclusively with human interests and needs in mind. And once again, while many of us might be willing to give up these advantages, many others might not be, since they might see these advantages as necessary for the goals that they want to pursue in life.

Why might the apparent demandingness of including animals in health and environmental advocacy and policy matter? First, we might

think that, if multispecies advocacy and policy are highly burdensome, then we are not morally required to pursue them and, indeed, we might not even be morally permitted to pursue them. Insofar as states aspire to be liberal democracies, they should allow citizens to determine what goals they pursue, within certain limits. In addition, while we might have a duty to devote *some* of our discretionary resources to altruistic aims, we do not have a duty to devote *all* of them to altruistic aims. In particular, we might think, we do not have a duty to spend substantial time and money improving nonhuman lives when many humans are still in need, too.

Similarly, we might think that, if multispecies advocacy and policy are highly restrictive, then we are not morally required to pursue them and, indeed, we might not even be morally permitted to pursue them. Insofar as states aspire to be liberal democracies, they should not impose their conceptions of the good life on citizens but should rather allow citizens to pursue their own conceptions of the good life, provided that citizens avoid harming each other in the process.[10] Additionally, insofar as states do restrict individual liberty, they risk depriving citizens of the ability to meet their basic needs. In particular, many people currently depend on harmful systems in order to survive, as both workers and consumers. How can we justify coercively preventing people from doing what they need to do in order to survive?

The demandingness objection is worth taking seriously. Even in ideal circumstances, there would be limits on what should be required. Self-determination means, in part, having a reasonable set of options from which to choose, rather than being required to pursue any particular option. And as before, current circumstances are far from ideal. Our options are already limited, not only because many humans are still living in poverty but also because our broken political and economic systems limit our capacity for change. In order to make progress in such a context, we need to set goals that we can expect a critical mass of people to support on an ongoing basis, despite these challenges. And when we start thinking in these terms, we might, once again, decide that we should limit our aspirations in the spirit of pragmatism.

Additionally, even in ideal circumstances, there would be limits on what should be forbidden. Self-determination means, in part, having a right to do wrong, within certain limits.[11] And current circumstances

are, once again, far from ideal. Humans are all too willing to impose our beliefs and values on our fellow humans, limiting what they can do because we think that we know best. When we do, our intentions can be good, but our impacts can still be bad, and can still reveal arrogance. In order to make progress in such a context, we need to respect and promote individual liberty and rights, including the right to act contrary to what the state or other citizens think is best. And when we start thinking in these terms, we might, once again, decide that we should limit our aspirations in the spirit of humility.

4.7. Including animals is not always demanding

However, like the futility objection, while the demandingness objection might be a reason to act thoughtfully, it is not a reason not to act. First, including animals in health and environmental advocacy and policy is not always highly burdensome. Consider mitigation. Many methods of reducing animal use are, at most, minimally burdensome. For example, many states subsidize animal agriculture both directly and indirectly, by paying for the health and environmental harms that the industry causes. Insofar as states level the playing field by redistributing subsidies and internalizing externalized costs (that is, by making industries pay for the health and environmental harms that they cause), they can reduce support for animal use and increase support for alternatives without increasing public spending at all.

Moreover, even when some methods of reducing animal use increase burdens for humans somewhat, they might still decrease burdens for humans overall. Suppose that we not only redistribute current public spending but also increase public spending overall, at least in the short term. For instance, we might spend more money subsidizing alternative proteins than we currently spend subsidizing animal proteins, and we might also spend money ensuring a just transition for farmers, workers, and consumers who currently rely on animal use for food or income. Plausibly, even if we have to increase public spending somewhat in the short term in order to bring about this transition, we will still be saving more than we spend in the long run by reducing the risk of pandemics, climate change, and other such threats.

Similarly, consider adaptation. Many methods of increasing animal support are, at most, minimally burdensome. For example, as we have seen, we are already planning to transform our approach to food, energy, transportation, social services, infrastructure, and so on in order to make our societies more sustainable and resilient. If we consider the interests and needs of humans and nonhumans alike when doing this work, then we can identify changes that can help humans and nonhumans alike. For instance, if we are already investing in education and employment, then we can ensure that some of this work will involve animal care. And if we are already investing in more energy-efficient cars and buildings, then we can ensure that new cars and buildings will have bird-friendly windows.[12]

Moreover, even when some methods of increasing animal support increase burdens for humans somewhat, they might still decrease burdens for humans overall, at least in some cases. For example, insofar as we invest in education and employment involving animal care, we not only create new opportunities for humans in general, but we also create more opportunities for humans to work to improve human, nonhuman, and environmental health in particular. And insofar as we invest in cars and buildings with bird-friendly windows, we can reduce the risk of collisions that negatively impact humans and nonhumans alike. Plausibly, even if we have to increase public spending in the short term to accomplish these goals, we might once again be saving more than we would be spending in the long run.

We can make all the same points about restrictiveness as well. Consider mitigation. Many methods of reducing animal use are, at most, minimally restrictive. For example, insofar as we redistribute subsidies and internalize externalized costs, we are not limiting the liberty that humans have all that much. Instead, we are simply increasing the price of animal proteins and decreasing the price of alternatives, with the result that people will have less incentive to produce and consume animal proteins and more incentive to produce and consume alternatives. And even if this method of including animals in mitigation reduces our options in some respects, by making animal proteins more expensive, it compensates for this restriction by expanding our options in other respects, by making alternative proteins more affordable.

Moreover, even when some methods of reducing animal use limit human liberty somewhat, they might still expand human liberty overall. For example, insofar as we increase the price of animal proteins and decrease the price of alternatives, we are doing more than simply substituting one option for another. We are also expanding options for humans in several other ways. In particular, replacing animal agriculture with alternative food systems will reduce land, water, and energy consumption; reduce land, water, and air pollution; and reduce the risk of pandemics, climate change, and other such threats. Plausibly, even if we have to restrict human liberty somewhat in the short term in order to bring about this change, we will still be expanding human liberty in the long run by conserving these resources and reducing these threats.

Similarly, consider adaptation. Many methods of increasing animal support are, at most, minimally restrictive. For example, insofar as we invest in education and employment opportunities involving animal care, we might be investing less in some opportunities, but we will also be investing more than others. Humans will still be able to learn and apply valuable skills, even if some of these skills happen to serve nonhumans as well. Similarly, insofar as we invest in animal-friendly designs for new infrastructure, we might be removing the option to add some features to new infrastructure. But we will be adding the option to add other features to new infrastructure. And humans will still be able to live, work, and travel even if our homes, offices, and vehicles happen to have bird-friendly windows.

Moreover, even when some methods of increasing animal support limit human liberty somewhat, they might still increase human liberty overall. For example, insofar as we invest in education and employment opportunities involving animal care, we can empower humans to address the health and environmental threats that are currently limiting our options. And insofar as we invest in animal-friendly designs for new infrastructure, we can reduce the risk of human-nonhuman conflicts that are currently limiting our options as well. Plausibly, even if we have to restrict human liberty somewhat in the short term in order to bring about these changes, we will still be expanding human liberty in the long run by considering the interests and needs of humans and nonhumans together in our adaptation efforts.

4.8. Even when it might be demanding, it can still be morally required

Additionally, even if particular methods of including animals in health and environmental advocacy and policy are demanding at present, they can still be morally required. First, even if some methods including animals increase *human* burdens overall (as might happen if we reduce animal use or increase animal support more than we need to do for purely selfish reasons), they can still reduce *burdens* overall. After all, the burden of making our economy and ecology more humane is nothing compared with the burden of being a nonhuman in our current, deeply inhumane world. And, if a minor net increase in human burdens can produce a major net decrease in nonhuman burdens, then we might need to make that trade, especially when human activity is responsible for many of these nonhuman burdens in the first place.

To see why we might sometimes need to favor nonhuman interests over human interests in cases of conflict, consider two standard views about priority setting. First, on an egalitarian view, we should apply equal weight to the interests of everyone, and we should then select the policy that does the most good possible, all else equal (without violating rights or otherwise acting wrongly). On this view, we might need to favor nonhuman interests in at least some cases, since nonhumans constitute more than 99% of our population, and nonhuman suffering might substantially outweigh human suffering in the aggregate (about which more in Chapter 7). Thus, in cases in which human and nonhuman needs conflict, we might at least sometimes be required to favor nonhuman needs on an egalitarian view.

Second, on a prioritarian view, we should apply greater weight to the interests of the worst-off among us than to the interests of the best-off among us, and we should then select the policy that does the most good possible, all else equal (without violating rights or otherwise acting wrongly). On this view, we might need to favor nonhuman interests in at least some cases as well, since, on some views about how to compare well-being across species, the vast majority of nonhumans are currently much worse off, or, at least, not much better off, than the vast majority of humans, due in part to human activity (about which more in Chapter 8). Thus, as with an egalitarian view, in cases in which

human and nonhuman needs conflict, we might at least sometimes be required to favor nonhuman needs on a prioritarian view.

We can make the same kind of point about restrictiveness as well. In particular, while some methods including animals decrease *human* liberty overall, they can still increase *liberty* overall. After all, the inability to exploit or exterminate nonhuman animals in particular ways (particularly when alternative options are available) is nothing compared with the inability to stand up, turn around, walk outside, engage in natural behaviors, spend time with your family, or live to see your first birthday. And, if a minor net decrease in human liberty can result in a major net increase in nonhuman liberty, then we might once again need to make that trade, especially when there are so many more nonhumans than humans and when human activity is responsible for so many current restrictions on nonhuman liberty.[13]

To see why we might sometimes need to favor nonhuman liberty over human liberty in cases of conflict, consider two standard approaches to liberalism. First, John Stuart Mill, a consequentialist liberal, famously advanced a *harm principle*. According to this principle, the state should not impose its own conception of the good life on community members, but should rather support each community member in pursuing their own conception of the good life, provided that each community member avoids harming others in the process. On this approach, if we see nonhumans as community members, too (about which more in Chapter 6), then we will see that our current political structure is clearly in violation of the harm principle, since it permits practices that massively and unnecessarily harm nonhuman animals.[14]

Second, John Rawls, a nonconsequentialist liberal, famously advanced a liberty principle. According to this principle, the state should not impose its own conception of the good life on community members, but should rather extend each community member as many basic rights and liberties as possible (including by providing each community member with "primary goods" that allow them to set and pursue their own goals in life), compatibly with equal basic rights and liberties for all. As with the harm principle, if we recognize nonhuman animals as community members, too, then we can see that our current political structure is clearly in violation of the liberty principle, since

it not only distributes primary goods inequitably but also permits practices that massively and unnecessarily violate nonhuman liberty.[15]

To be clear, I am not claiming here that we should always favor nonhuman needs over human needs in cases of conflict. First, we need to consider much more than equality, priority, and liberty before we can know what to do, all things considered. For instance, as I have argued, we also have to consider the limits of our knowledge, power, and political will. And even if it might be ideal for humans to distribute a much higher percentage of social benefits to nonhumans in theory (since nonhumans constitute more than 99% of our community), it might not always be ideal for us to do so in practice (since we might be unable or unwilling to achieve or sustain this kind of altruism at present). As we will see, our priority-setting decisions will have to consider many other factors as well.

Second, even insofar as we consider equality, priority, and liberty, we need to do much more work before we can know whether and how to apply such values across species. For instance, what basic goods do particular nonhuman animals need to have more liberty, and what kind of legal and political status should particular nonhuman animals have in human-administered multispecies political communities? Additionally, what do equality and priority even mean in a multispecies community that can include everyone ranging from elephants to ants? We will discuss these questions in later chapters. For now, all I am claiming is that we should favor nonhuman needs much more than we do, and that, plausibly, we should favor nonhuman needs over human needs in at least some cases in practice.

4.9. Summing up

For these and other reasons, I think that we should include animals in health and environmental advocacy and policy in spite of the possibility of demandingness. Reducing our use of animals and increasing our support for animals is not always demanding, and even when it might be, it can still be morally required. Insofar as we approach health and environmental policy holistically and structurally, we can reduce conflicts between human and nonhuman animals. And insofar

as conflicts remain, we might at least sometimes need to prioritize nonhumans, since we are currently attempting to increase benefits for less than 1% of our population by increasing burdens for more than 99% of our population (including many humans), and since such radically unequal distributions of benefits and burdens are morally unacceptable.

With that said, as with futility, I do think that we should take the possibility of demandingness seriously in our decision-making. Insofar as a particular strategy for reducing our use of animals or increasing our support for animals is likely to be highly burdensome or restrictive, that should count against that strategy all else equal (and perhaps all things considered, depending on the details). Consider a policy of relocating as many nonhuman climate refugees as possible, either to sanctuaries or to novel natural ecosystems. If someone were to propose such a policy, I would likely reply that this idea is unacceptably demanding, at least at present. Even if it could overcome concerns about futility, it would be far too burdensome to be a cost-effective method of reducing human-caused animal suffering at scale.

Similarly, consider a policy of banning the activities that harm and kill nonhuman animals in the first place. In particular, according to this policy, we would not only ban practices that harm and kill nonhumans as means to our ends, such as animal farming and animal research. We would also ban practices that harm or kill nonhumans as side effects of our activities, such as construction and transportation. If someone were to propose such a policy, I would likely reply that this idea is unacceptably demanding as well, at least at present. Even if it could overcome concerns about futility, it would be far too restrictive to be compatible with essential work that can do a lot of good for humans and nonhumans alike in the long run. (We will consider some other difficult conflicts between human and nonhuman needs and interests in Chapter 6.)

But even in these cases, the truth is likely somewhere in the middle. For example, while it might be a bad idea to attempt to relocate as many nonhuman climate refugees as possible, it might not be a bad idea to attempt to support some of them in other ways. For instance, we can attempt to relocate some nonhuman climate refugees, ideally to sanctuaries, both to reduce and repair human-caused harms to these

animals and to demonstrate that alternative forms of multispecies coexistence are possible. Meanwhile, we can train more veterinarians, build more sanctuaries, and otherwise make nonhuman habitats, ranging from urban to natural environments, more humane. This more balanced approach can preserve many of the benefits of the other, more demanding approach, while mitigating some of the costs.

Similarly, while it might be a bad idea to ban all practices that harm and kill animals, it might not be a bad idea to address some of these harms in other ways. For example, we can ban particular practices that harm or kill animals unnecessarily, including particular kinds of farming, research, deforestation, and development. We can also regulate remaining harmful practices to make them less harmful, develop alternatives to make remaining harmful practices less necessary, and make infrastructural changes that reduce human and nonhuman conflict in general, so that replacing harmful practices with other, less harmful alternatives is less disruptive for humans and nonhumans alike. This more balanced approach can preserve many of the benefits of the other, more restrictive approach, while mitigating some of the costs.

When we attempt to strike a balance in these kinds of cases, we should keep in mind that, as with our intuitions about futility, our intuitions about demandingness are unlikely to be reliable. After all, we currently live in a social, political, and economic system that normalizes and artificially reduces the cost of animal exploitation and extermination, and that stigmatizes and artificially increases the cost of alternatives. In this context, we might think that alternatives to animal use are too demanding to be morally required. But this might simply be a failure of imagination on our parts. Insofar as we change the social, political, and economic systems that favor harmful systems over other, less harmful systems, we might find that many interventions are much less demanding than they currently appear, or, even, currently are.

We should also keep in mind that we currently have privilege over other animals, and that when we have privilege, equality can feel like oppression. But of course, it is not acceptable for us to restrict the scope of justice simply to make our lives easier. Instead, we must expand the scope of justice to include everyone who deserves it, and we must then think creatively about how to support everyone involved as much as

reasonably possible. The implications for animals are clear. We have a duty to treat other animals much better than we are. And while we might need to sacrifice some of our current privileges in order to do that, this is acceptable. Indeed, we never should have taken many of these privileges for ourselves to begin with—or, at least, we should stop taking them for ourselves now that we have better options.

Thus, as with futility, in rejecting the idea that including animals is too demanding to be morally required, I am not rejecting the idea that there are limits to what can be morally required. I am instead rejecting the idea that we know what these limits are, and that, in particular, we know that these limits are so substantial that any attempt to reduce our use of animals or increase our support for animals at scale is unacceptably burdensome or restrictive. We already know that we need to make sacrifices in order to address pandemics, climate change, and other global threats. We should consider humans and nonhumans together in this process, in our capacity as both causes and victims. When we do, we might find that many changes are easier to make than we currently think, and that many others, while hard, are still possible and necessary.

4.10. Conclusion

I can appreciate why we might resist the idea of including animals in health and environmental advocacy and policy. Our global health and environmental problems are already so complex, and they only become more so when we attempt to include other animals in our solutions. However, I have argued that this complexity is a reason to act thoughtfully, not a reason not to act. We have to weigh the costs and risks of inclusion against the costs and risks of exclusion. And when we do, it is clear that we should try to do something. While we might never be able to treat everyone ideally well, we can still do better than we are. And while humans in the global 1% might need to accept more burdens and fewer benefits to accomplish this goal, this is both less extreme and more tolerable than it might currently appear to be.

I have also argued that with respect to both futility and demandingness, which interventions are possible and necessary can change

over time. Part of why reducing our use of animals might seem unthinkable now is that our current global systems are built around the exploitation and extermination of other animals. Similarly, part of why increasing our support for animals might seem unthinkable now is that our current global systems are built around the needs of humans in the global 1%. We have a stronger infrastructure in place for producing animal products than plant products and for supporting humans in the global 1% than everyone else. To the degree that we change these systems, we might find that we have fewer limits in the future than we do at present, both in appearance and in reality.

It is worth emphasizing that there is nothing special about animals with respect to these issues. Even if we bracket the role of animals in health and environmental problems, it would remain the case that these problems are complex, and that any real solutions will involve a radical redistribution of benefits and burdens in societies. So, if we are not required to include animals in our mitigation and adaptation efforts because of the concerns discussed in this chapter, then we are also not required to pursue mitigation and adaptation in general. Conversely, if we *are* required to pursue mitigation and adaptation in general, in spite of the concerns discussed in this chapter, then we are also required to include animals in these efforts. I think that the latter conclusion makes much more sense than the former.

In the next two chapters, I will consider what including animals in health and environmental advocacy and policy might look like more concretely. I will start, in Chapter 5, by discussing a series of changes that I think that we should clearly implement, many of which I have already touched on in this chapter. I will then, in Chapter 6, discuss a series of changes that might be more controversial, but that we should still seriously consider. For instance, I think that we should consider extending legal and political standing and representation to animals. Finally, in Chapters 7 and 8, I will consider questions about well-being, moral status, creation ethics, and population ethics that we will need to answer in order to make our duties regarding animals, pandemics, climate change, and other global threats more concrete.

5
Methods of inclusion for animals

5.1. Introduction

I have argued that we have a moral duty to include animals in health and environmental advocacy and policy, but I have also argued that we have a duty to act within our epistemic, practical, and motivational limits. This raises the question what we should do and how we should do it. This question is difficult to answer, because our task is both urgent and complex. On one hand, the more ambitious we are in the short term, the more we risk making mistakes, by pursuing the wrong goals or pursuing our goals ineffectively. On the other hand, the less ambitious we are in the short term, the more we will miss the opportunity to include animals in efforts already underway, and so the more we will risk reinforcing a status quo that exploits and exterminates trillions of animals per year, thereby harming us all.

As I discussed in Chapters 2 and 3, I think that resolving this tension will require different approaches in different situations. With respect to some issues, we already know what to do and how to do it, and we already have momentum behind this work. For instance, we know how to reduce our use of animals at scale, and many people are committed to this project. With respect to other issues, we know less about what to do or how to do it, and we have less momentum behind this work. For instance, we do not yet know how to increase our support for animals at scale, and even if we did, not many people are committed to this project. So, we might need to take a different approach to, say, reducing farmed animal suffering and death than to, say, reducing wild animal suffering and death at present.

My aim in this chapter is to discuss eight steps that we clearly can, and should, take to include animals in health and environmental advocacy and policy. We should promote research and advocacy for animals, we should reduce support for industries that exploit and

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exterminate animals, we should increase support for alternatives, we should include animals in impact assessments, we should include animals in education and employment, we should include animals in social services, we should include animals in infrastructure changes, and we should stop blaming and punishing animals for human-caused problems. Of course, even these steps are radical and transformative. But in these cases, the urgency outweighs the complexity. We should start now and work out the details along the way.

As with everything in this book, my discussion here will focus on the big picture. I will not discuss every step that we can and should take, nor will I discuss these steps in maximum detail. Instead, I will provide a general survey of practical steps that we can work together to pursue in the short term, so that we can start making progress. Granted, as we will discuss later, there are further uncertainties about what we should do in the long run, as well as about how to implement these and other changes. But part of what makes the changes discussed in this chapter valuable is that they will not only help many humans and nonhumans in the short term, but they will also help us to develop an infrastructure that will allow us to make informed decisions about these more complex questions in the long run.

5.2. Supporting research and advocacy

First, we can support research and advocacy for animals, global health, and the environment. As we have seen, we need to reduce our use of animals and increase our support for animals, but we are currently neither able nor willing to do this work effectively. It follows that we should support research so that we can improve our ability to do this work, and we should support advocacy so that we can improve our willingness to do this work. Moreover, we should support both of these efforts now. After all, research and advocacy take time to do well, and we have very little time to spare. Thus, we should start laying the groundwork for effective policy now, by investing heavily in a broad, pluralistic, holistic, and structural approach to animal, global health, and environmental research and advocacy.

We need more research in many areas, but we particularly need more research concerning wild animal welfare. As we have seen, we currently know very little about what wild animals are like, how human activity is impacting wild animals, and how, if at all, we can improve wild animal welfare at scale. For example, how many wild animals exist in the world at any given time? Which wild animals are doing well and badly at present? Which wild animals will do better and worse in a world reshaped by human-caused climate change? If we provide particular wild animals with, say, food, water, shelter, or veterinary care, how will that impact wild animal populations? If we intervene in wild animal suffering through, say, population control or genetic engineering, how will that impact wild animal populations?

To support this research effectively, we need to think holistically when assessing the value of research. For example, insofar as researching wild animal welfare is a priority, it can be tempting to focus on research in the natural sciences. However, we need research in the social sciences and humanities, too. For example, we need research in the social sciences to know how advocacy will affect policy, and how policy will affect our treatment of wild animals. And we need research in the humanities to know how to evaluate these behaviors and impacts in the first place. For example, what makes life better, worse, good, or bad for animals, and how can we answer such questions given the limits of our human perspective? As we will see later, we need to think both empirically and ethically in order to answer these questions.[1]

To support this research effectively, we also need to think structurally about current and future research institutions. If our goal is to make progress sooner rather than later, then it can be tempting to invest primarily in current research programs. However, we need new kinds of research programs, too. For example, we need more multidisciplinary programs that integrate work on welfare, health, and the environment across disciplines. We also need more efforts within disciplines to learn about other disciplines, and to consider how work in each discipline can benefit, and benefit from, work in others. I am lucky to be able to work in a multidisciplinary field and department, and my work, for all its faults, benefits enormously from that. We need to make sure that many more researchers have similar opportunities.[2]

As with research, we need more advocacy in many areas, but we particularly need more advocacy around farmed and wild animal welfare, in many respects. For example, we need more support for consumer outreach, so that we can motivate people to consume fewer animal products, consume more plant-based products, and support policies that help farmed and wild animals. We need more support for corporate outreach, so that we can motivate companies to produce, buy, and sell fewer animal products; produce, buy, and sell more plant-based products; and support policies that help farmed and wild animals. And we need more support for political outreach, so that we can motivate states to subsidize animal products less, subsidize plant products more, and implement policies that help farmed and wild animals.[3]

As with research, to support this advocacy effectively, we need to think holistically when assessing the value of advocacy. For example, insofar as we advocate for farmed and wild animals, it can be tempting to focus on advocating for welfare reforms. However, we need other kinds of advocacy, too. For example, we need to advocate for animal rights, both for its own sake and as a means to welfare reforms. Likewise, we need to advocate for diversity, equity, and inclusion within animal advocacy, both for its own sake and as a means to expanding our coalitions. As I discussed in Chapter 4, this kind of radical advocacy might not help many animals by itself in the short term. But it is essential for building a movement through which we can help as many animals as possible in the long run.[4]

Similarly, to support this advocacy effectively, we also need to think structurally about current and future social movements. If our goal is to make progress sooner rather than later, then it can be tempting to invest primarily in current organizations. However, we need new kinds of organizations, too. For example, we need more multi-issue networks that integrate work on welfare, health, and the environment across movements. We also need more efforts within movements to learn about other movements, and to consider how work in each movement can benefit, and benefit from, work in other movements. This is part of why standing in solidarity with other movements is so helpful. Not only can solidarity help other movements, but it can also make any particular movement more knowledgeable and powerful.

Supporting research and advocacy, then, is not only a matter of increasing research and advocacy on the topics discussed in this book. It is also a matter of creating the conditions necessary for this work to be accurate and effective. No matter how many people research animal welfare, this research will not be accurate if it focuses exclusively on, say, the biological dimensions of animal welfare without considering the social or normative dimensions of animal welfare. And no matter how many people advocate for animal welfare, this advocacy will not be effective if it focuses exclusively on, say, the need to reduce suffering, without also considering the need to respect rights, cultivate virtues, build relationships of care, or improve social dynamics within and beyond animal advocacy.

5.3. Reducing support for harmful industries

Second, we can reduce support for industries that exploit and exterminate animals through boycotts, taxes, regulations, bans, and other actions. These industries maintain the appearance of efficiency because of subsidies and deregulation. As we have seen, subsidies reduce costs for these industries by increasing costs for the public, and deregulation reduces costs for these industries by lowering standards for how they treat animals, workers, health, and the environment, which once again increases costs for the public. Insofar as we reduce public support for harmful practices, not only will we improve standards for our treatment of humans and nonhumans, but we will also require producers and consumers to pay for the harms that they cause, thereby making harmful systems less competitive on the free market.[5]

With that in mind, consider the role that governments and other institutions can play in advocacy. In much the same way that individuals can advocate against harmful practices, collectives can do so as well. For example, many U.S. cities are now implementing informational policies to promote humane, healthful, and sustainable food choices. Los Angeles, Philadelphia, and Washington, D.C. have made Meatless Mondays proclamations, and Austin, New York City, and Portland have run public awareness campaigns on topics ranging from food ethics to wild animal welfare. Some cities have also followed these

informational policies with other policies, as we will see in a moment. But even in cases where these policies are purely informational, they can still play an important role in shaping social norms.

Second, consider the role that governments and other institutions can play in boycotts. In much the same way that individuals can boycott harmful practices, collectives can do so as well. For example, many universities are now implementing "plant-forward" menus to reduce their carbon footprints.[6] And many cities are now changing procurement policies to achieve the same aim. For example, in 2019, New York City announced that it would serve 50% less beef and phase out processed meat at city-controlled facilities such as schools, hospitals, and prisons.[7] Similarly, school districts in Baltimore, Los Angeles, New York City, Oakland, and Philadelphia have implemented Meatless Monday programs (or similar programs), and San Francisco hospitals have reduced meat consumption by 28%.[8]

Third, consider taxes. Many animal, health, and environmental advocates support a system of full-cost pricing. In a system of full-cost pricing, the state uses taxes to ensure that companies pay for the harms that they cause, including public health and environmental harms. If we applied full-cost pricing to, say, factory farming, the cost of this practice would skyrocket. Not only would the meat industry lose billions per year in subsidies. But it would also face billions per year in taxes, since it would be required to pay for the impacts of antimicrobial resistance, land use, water use, energy use, waste, pollution, and greenhouse gas emissions.[9] Countries such as Denmark, Germany, and Sweden have reportedly considered a meat tax for these reasons.[10] We should advocate for other cities, states, and countries to do the same.

Fourth, consider regulations. Many animal, health, and environmental advocates support restrictions on how food products are produced and labeled. For instance, many advocates support a requirement that animal products include a label indicating the welfare, health, and environmental harms associated with producing and consuming these products. Many advocates also support a prohibition on false or misleading labeling. For example, food corporations mislead consumers by labeling animal products as "humane" and "sustainable" when they are anything but. Fortunately, consumer protection lawyers are pushing back against this practice in courts.[11] Whether or not these

efforts are enough to change consumer behavior, they can still make a big difference combined with other efforts.[12]

Fifth, consider bans. Many animal, health, and environmental advocates support bans of harmful practices within particular industries, as well as, in some cases, of entire industries. For instance, many cities and states have banned meat, dairy, and egg production methods that involve cages, gestation crates, force feeding, and more.[13] In 2020, China announced a permanent ban on the trade and consumption of wild animals in response to COVID-19.[14] And around the same time, U.S. Senator Cory Booker introduced the Farm System Reform Act, co-sponsored by Bernie Sanders and Elizabeth Warren, which would place a moratorium on new large factory farms and call for the closure of large factory farms by 2040.[15] Whether or not such policies are enough, they are clearly steps in the right direction.

Of course, we can debate which of these efforts to prioritize in which cases. For instance, I believe that a global ban on factory farming, deforestation, and the wildlife trade is morally ideal, for reasons discussed in Chapters 2 and 3. But I also appreciate that such a ban is not achievable at present. So I think that insofar as local bans might be more achievable at present, we should pursue them for now, and that insofar as they are not, we should pursue a combination of advocacy, boycotts, taxes, and regulations for now, so that we can express disapproval of these industries while making them less competitive on the free market by increasing the cost of meat production. We can then implement broader bans later on, once our social, political, and economic structures have shifted enough for these bans to be achievable.

We can also debate how far these efforts should extend, both in the short term and in the long run. For example, should we limit taxes to full-cost pricing, or should we apply further taxes as well? Similarly, should we restrict bans to some animal products, such as factory farmed products, or should we apply them to all animal products? These are difficult questions, and I will not answer them here. However, I will note that, even if we restrict ourselves to relatively moderate options, such as a ban on factory farmed products and full-cost pricing otherwise, that would still be transformative. The food systems that currently produce more than 90% of meat would be banned, and any

remaining meat would be both rare and expensive, since animal agriculture would be responsible for a much wider range of costs.[16]

5.4. Increasing support for alternatives

Third, we can increase support for humane, healthful, and sustainable practices through social, political, and economic action. In particular, as we reduce support for factory farming and the wildlife trade, we can increase support for plant-based alternatives. Similarly, as we reduce support for deforestation, we can increase support for reforestation and land use change. In particular, governments and other institutions can support these alternative practices in many of the same ways that they are currently supporting harmful industries, such as informational campaigns about the benefits of alternatives, procurement of alternatives, subsidies for alternatives, and deregulation for alternatives. Since I will discuss alternative land uses shortly, in the context of infrastructure, I will focus on alternative food systems here.

When we discuss alternative foods, we might have many alternatives in mind. First, of course, we might mean plant agriculture. As Matthew Hayek shows, improving production of pulses such as beans, chickpeas, and lentils can substantially improve nutrition and sustainability in our global food system.[17] Alternatively, and relatedly, we might mean plant-based meat (for instance, a burger made out of veggies, grains, soy, and so on) or cultivated meat (for instance, a burger made out of flesh that, instead of coming from an animal, comes from a scaffolding and growth medium in a brewery-like facility).[18] These alternatives are all better for humans, nonhumans, and the environment than animal-based foods. Since plant agriculture is relatively well understood, I will focus here on plant-based and cultivated meat.

Plant-based meat has been around for centuries, and it is currently widely available in many countries.[19] Initially, plant-based meat was easy to distinguish from conventional meat. It might have resembled conventional meat in some respects, but everybody knew which was which. But increasingly, companies are discovering methods of production that make plant-based meat difficult to distinguish from conventional meat. For example, companies such as Beyond Meat and

Impossible Foods are now able to break plants down into core parts including "amino acids, lipids, water, and a trace amount of minerals and carbohydrates" and then restructure those parts so that they resemble conventional meat.[20] As this technology improves, the gap between plant-based and conventional meat will continue to close.

In contrast to plant-based meat, cultivated meat is still in early stages of development. The idea has existed for at least a century,[21] and the basic technology has existed for decades.[22] But use of this technology to produce meat is still relatively new. In 2002, researchers announced that they made a fish filet,[23] and in 2013 Mark Post debuted the first edible cultivated hamburger in London.[24] Since then, many companies have worked to improve cultivated meat production methods, and they have reached important milestones in recent years. For instance, in December 2020, Singapore became the first country to grant regulatory approval for cultivated meat,[25] and the Singaporean restaurant 1880 became the first to sell cultivated meat—in this case, "lab-grown chicken made by U.S. start-up Eat Just."[26]

Plant-based and cultivated meat are promising alternatives to conventional meat. Production of these alternatives is more humane, healthful, and sustainable than production of conventional meat. For instance, one study predicts that cultivated meat will require only 1% as much land and 4%–18% as much water as conventional meat, and that it will emit only 4%–22% as many greenhouse gases as conventional meat.[27] Even if these estimates are optimistic,[28] cultivated meat is still likely to be better than conventional meat overall. Thus, while a food system based entirely around simple plants might or might not be ideal in the long run, a food system based partly around plant-based and cultivated meat might at least be a reasonable compromise in the short term, as we wean ourselves from conventional meat.[29]

However, there are substantial obstacles that plant-based and especially cultivated meat need to overcome in order to realize this potential. For instance, socially, we need to persuade people that plant-based and cultivated meat products are consistent with their personal, cultural, and religious identities, as well as that conventional meat products are bad and inconsistent with their personal, cultural, and religious identities. We also need to push back against arguments against these products. For example, when people call plant-based and

cultivated meat "unnatural," we can point out that these products are more natural than we might think, that conventional meat is less natural than we might think, and that, in any case, which foods are "natural" is less important than which foods are humane, healthful, and sustainable.[30]

Similarly, politically and economically, we need to promote plant-based and cultivated meat in the business and political communities. This means persuading business leaders to see these alternatives as opportunities to pursue, rather than as competition to resist. It also means lobbying political leaders to shift subsidies away from conventional meat and toward these alternatives. Meanwhile, we need to push back against attempts to undermine these products. For example, when conventional meat companies argue that plant-based meat labels mislead consumers, we can argue that these labels accurately convey the nature of these products to consumers. We can also argue that many conventional meat labels *are* misleading, since conventional meat is not, for instance, humane or sustainable.[31]

Finally, technologically, we need to publicly fund research to accelerate development of alternative proteins, so that plant-based and especially cultivated meat can be more ethical and effective substitutes. For example, in the case of cultivated meat, we need to replace animal-based growth mediums with plant-based growth mediums so that cultivated meat can be more ethically acceptable. We also need to reduce the economic costs of production so that cultivated meat can be more economically competitive (and of course, increasing taxes and regulations for conventional meat can help in this regard too). Finally, ideally, we can also reduce the energy costs of production so that cultivated meat can be an even more sustainable alternative to conventional meat than it currently is.

5.5. Including animals in impact assessments

Fourth, we can include animals in health and environmental impact assessments. Many public and private institutions use impact assessments to make policy decisions. In particular, when we need to make decisions that involve trade-offs, we attempt to estimate the

benefits and harms of each option so that we can make an informed decision about which option to pursue, all things considered. If we include animals in these impact assessments, then we can make more informed decisions about how to increase benefits and decrease harms for everyone impacted by our activity. But as we have seen, this means more than considering nonhumans for the sake of humans, as current approaches to One Health and the Green New Deal do. It also means considering nonhumans for their own sakes.[32]

Consider four steps we can take to include animals in impact assessments more effectively. First, we can include the health and environmental impacts of factory farming, deforestation, the wildlife trade, and other such practices in our impact assessments and policy decisions. As we have seen, many people now recognize that the exploitation and extermination of nonhuman animals contribute to global health and environmental threats. But when we fail to include these contributions in the impact assessments that inform policy decisions, we significantly underestimate the harms of these practices and risk making mistakes. This is part of why—but not, of course, the only reason why—food tends to receive less attention than energy and transportation, relative to its impact.

Second, we can include the welfare and rights of farmed animals in our impact assessments and policy decisions.[33] For instance, many people now recognize that factory farming is bad not only for global health and the environment but also, and especially, for the billions of cows, pigs, chickens, fishes, and other animals who suffer and die in factory farms and slaughterhouses every year. But once again, when we fail to include farmed animals in the impact assessments that inform policy decisions, we significantly underestimate the harms of this practice. Although considering global health and environmental impacts might be enough to show that factory farming is wrong, considering farmed animal suffering and death is morally necessary too, and it makes the wrongness of factory farming all the more apparent.

Third, we can include the welfare and rights of wild animals in our impact assessments and policy decisions. For instance, many people now recognize that deforestation and the wildlife trade are bad not only for global health and the environment but also, and especially, for the countless wild animals who suffer and die as a result of these

practices. But once again, when we fail to include wild animals in the impact assessments that inform policy decisions, we significantly underestimate the harms of these practices. Importantly, this point applies to alternative practices too. For instance, if we reforest or rewild nature without considering wild animals, then we might improve global health and environmental impacts while harming, killing, and neglecting many wild animals unnecessarily.

Fourth, we can lay the groundwork for these efforts not only by supporting research and advocacy about animals, but also by ensuring that policymakers are able to consider animals when making policy decisions. For example, we can advocate for governments to create animal protection agencies or animal welfare offices, as, for instance, Mexico City and New York City have done.[34] Granted, this simple step might not be enough to ensure adequate representation for animals in law and policy. (We will consider more ambitious ideas in Chapter 6.) But it might increase the chance that at least *someone* will consider animals as part of the political process. In many cases, this is all that it takes to identify, and implement, simple changes that benefit humans and nonhumans alike.

Of course, one might reasonably worry that we are not yet ready to include animals in our impact assessments in all of these ways. As we have seen, we currently know relatively little about animal welfare, and we also currently have relatively little political will for reducing our use of animals and increasing our support for animals for their own sakes. Thus, one might think, including animal welfare in our impact assessments can easily do more harm than good. For instance, we might harm animals by making bad assumptions about which animals are sentient, which animals have good and bad lives, and how particular policies will impact particular animals, individually and collectively. We can also easily harm animals by attempting to help them too much too fast, such that we risk political backlash.

But as I argued in Chapter 4, I think that we should start including animals in our impact assessments, at least to a degree, in spite of these risks. First, while we might not know enough to construct accurate impact assessments yet, we still know enough to draw at least some important conclusions, such as that factory farming, deforestation, and the wildlife trade are massively and unnecessarily harmful. Similarly,

while we might be able to extend full representation to animals yet, we can take at least some important actions, including opening animal welfare offices and supporting boycotts, taxes, regulations, and bans on some practices as a result. And the more we take these initial steps, the more we can build the knowledge, power, and political will necessary to take other, more impactful steps later on.

Additionally, as I argued in Chapter 4, while including animals in these ways carries risks, excluding them does, too. For instance, insofar as we include animals in impact assessments, we risk making mistakes in our efforts to harm them less or help them more. But insofar as we exclude them, we risk neglecting our impacts on them entirely and underestimating the harms of current human practices as a result. In this kind of case, we need to carefully weigh all possible risks and benefits when deciding what to do. I believe that when we do, we will see that including animals thoughtfully and strategically involves fewer risks, and more benefits, than excluding them does. We will examine what including animals thoughtfully and strategically might involve in more detail in Chapters 7 and 8.

5.6. Including animals in education and employment

Fifth, we can include animals in education and employment. Our schools shape what we know and care about, and they prepare us to join the workforce. Meanwhile, public works programs employ many people during economic transitions, and they contribute to creating these transitions. As a result, education and employment policy have an important role to play in creating a more humane, healthful, and sustainable society. If we educate students about what animals are like, then we can build a culture where people know and care about animals more. If we prepare students for work that involves less use and more support for animals, then we can build a workforce that can accomplish these aims. And if we invest in humane employment opportunities, then we can empower people to do this work.

Take education first. Part of including animals in education is improving the content of education. As with research and advocacy,

we can make education about animals both more expansive and more integrative. For example, we can develop veterinary programs that teach people about nonhuman health and well-being and about the risks and harms that animals face in the Anthropocene. We can also make education about animals more relevant to what will be needed in the Anthropocene. For example, we currently have many programs that prepare people for work in conventional research, agriculture, and conservation. But we have relatively few programs that prepare people for work in humane alternatives. The more we invest in these alternatives, the more we can bring about generational change.

Another, related part of including animals in education is improving how animals are treated in education. At present, many programs use, harm, or kill animals unnecessarily as part of education. For instance, many students dissect animals in science classes and harm and kill live animals as part of medical and veterinary training, in spite of the fact that alternative methods are not only more humane but also more effective.[35] As a result, not only do many education programs use, harm, and kill animals unnecessarily, but they also teach students that these practices are normal and acceptable, and they push away students who disagree. The more we invest in humane alternatives to these inhumane practices, the more we can mitigate all of these risks and harms while improving educational outcomes.[36]

Of course, improving education in these ways will be easier to the degree that we also improve employment opportunities in related ways. Fortunately, many people are now starting to do that, by supporting people in transitioning away from jobs in harmful industries. For example, the Agriculture Fairness Alliance is promoting legislation to authorize grants for farmers who want to transition away from animal agriculture.[37] Similarly, organizations like Mercy For Animals are working to direct resources to farmers who want to start growing foods like peas, oats, and mushrooms.[38] These programs stand to benefit not only society but also many farmers and workers since the jobs that these programs create tend to be less harmful and exploitative than the jobs that they replace.[39]

Another part of including animals in employment is expanding opportunities to work in support of domesticated, liminal, and wild animals. One of the main programs in the original New Deal was the

Civilian Conservation Corps, which employed millions of workers to plant trees and manage nature.[40] We can follow this example in policy frameworks such as the Green New Deal by creating programs that employ workers to manage nature and care for animals who live in spaces ranging from cities to forests. Of course, many forms of support will require relatively specialized labor, such as veterinary work. But many others might require relatively unspecialized labor, such as food provision. And many others might be somewhere between. We can work to expand opportunities for people to do all of these jobs.

Granted, even with such efforts, there is no guarantee that every job lost will correspond to a job gained, and there is also no guarantee that every job gained will be ideal for workers. For example, suppose that we transition from an animal-based food system to a plant-based food system. Even if this transition adds as many jobs to the economy as it removes, many of the jobs that it adds might be in different places or require different skills than many of the jobs that it removes. The rise of automation, monopoly, and offshoring will affect job availability as well. And of course, even though factory farming is particularly dangerous and exploitative, workers are vulnerable to exploitation in other industries too. Thus, while expanding education and work opportunities can reduce trade-offs, it cannot eliminate them.

This is part of why we need to think holistically about how to support people in transitioning away from work in harmful industries. After all, there are many harmful, exploitative industries that, in spite of all the harm that they cause, create jobs and support local economies. For example, our food, energy, and transportation systems all have these features. If we attempt to replace harmful jobs in each sector only with alternatives in that same sector, then we might see our options as more limited. But if we also consider replacing them with alternatives in other sectors, then we might see our options as more expansive. In short, creating bridges not only within but across sectors allows us to resolve trade-offs more effectively than creating them only within particular sectors does.

This is also part of why we need to think structurally about how to support people in transitioning away from work in harmful industries. It would be a mistake to think that we can support these transitions effectively within our current social, political, and economic structures.

Yet it would also be a mistake to treat the structural nature of this problem as an excuse for inaction. We need to be willing to reduce support for harmful, exploitative jobs and increase support for helpful, respectful jobs where possible within current structures. But we also need to be willing to pursue other, more structural changes—for instance, through improved public education, better worker protections, universal healthcare, and universal basic income—so that we can reduce and resolve remaining conflicts effectively.

5.7. Including animals in social services

Sixth, we can include animals in social services. We all need basic goods such as food, water, shelter, and healthcare in order to be able to flourish in life. As we have seen, expanding access to these basic goods is important not only in itself, but as part of pandemic and climate change mitigation and adaptation. Pandemics and climate change harm us both directly and indirectly, by amplifying threats that we already face such as hunger, thirst, illness, and injury. Thus, if we want to reduce unnecessary suffering and reduce and repair the harms that we cause, it is not enough to address the direct harms of pandemics and climate change. We also need to address the indirect harms, by increasing resilience against hunger, thirst, illness, and injury. This requires expanding access to basic goods for humans and nonhumans alike.

We currently do include animals in some social services. We attempt to learn about nonhuman health as a means to learning about human health, and we also attempt to improve nonhuman health as a means to improving human health. Thus, for instance, many states test and vaccinate wild animal populations for rabies in order to control the spread of rabies within human populations. We sometimes attempt to help animals for other reasons too—for instance, because we care about particular animals or, at least, because we care about humans who care about them. The global response to wild animal suffering and death during the Australia bushfires might be the most recent and salient example of public support for animal rescue and rehabilitation, but there are many other examples as well.

However, these efforts are limited in a variety of important ways. First, ideally our efforts would be both proactive and reactive, in that we would work to prevent problems from arising, prepare for them before they arise, and respond to them after they arise. But while some efforts, such as some disease management efforts, are both proactive and reactive, other efforts, such as other disease management efforts and most animal rescue efforts, are mostly reactive. We can do more good overall, then, if we devote more resources to proactive work. The more we work to reduce the frequency and intensity of health and environmental threats, and the more we prepare for the need to care for humans and nonhumans alike when we face these threats, the more effective (and less necessary) our reactive work will be.

Second, ideally our efforts would consider nonhumans both for the sake of humans and for their own sakes. But as we have seen, while some efforts, such as some animal rescue efforts, are intended to help animals for their own sakes, others, such as other animal rescue efforts and most disease management efforts, are intended to help animals mostly for our sakes. This instrumentalizing approach has at least two troubling implications. First, it leads us to focus more on some animals than on others. For instance, we might test and vaccinate for diseases that affect humans, but not for diseases that affect only nonhumans. Similarly, we might rescue animals who are seen as having value to humans, but not animals who are seen as having value only to themselves or to other nonhuman animals.

The second troubling implication of this instrumentalizing approach is that it can lead us to harm and kill nonhumans more than, I have argued, we should. For example, our current method of testing wild animals for rabies is to kill them and examine their brain tissue.[41] Similarly, when we perceive wild animals to be "pests," "predators," or "invasive species," our response is often to kill them as a first resort. But while I have argued that we might sometimes be permitted or required to kill nonhumans for self-defense, other-defense, or other such purposes, I am skeptical that our current approach meets these standards. Killing animals as a first resort might appear to make sense when we see them as objects, or as mere parts of a whole. But it does not make sense when we see them as individuals with rights, as, I believe, we should.

To illustrate how including animals in research, advocacy, education, employment, and social services are connected, consider again the role of veterinarians in the Anthropocene. As Rosalie Trevejo argues, we can empower veterinarians to do much more good than they currently are. For example, in the United States, many more veterinarians are employed to care for captive and domesticated animals, such as farmed, lab, and companion animals, than to care for wild animals. Of course, this makes sense. Veterinary care costs money, and humans are more willing to spend money on veterinary care for animals we "own" (for both altruistic and self-interested reasons) than for animals nobody "owns." But this focus still limits how much veterinarians can work to improve human and nonhuman lives.[42]

With that in mind, Trevejo discusses several major contributions that veterinarians can make to public health, with appropriate support. First, veterinarians can participate in disease detection and reporting. If we improve communication between human and nonhuman health experts and providers, then veterinarians can provide valuable data for public health officials. Second, veterinarians can participate in disease response and prevention. If we expand training and accreditation programs, then veterinarians can train to participate in surge responses to public health crises, as well as to participate in public outreach about human and nonhuman health. Finally, veterinarians can conduct research about nonhuman health and well-being, contributing to health science both in theory and in practice.

These are inspiring goals, but they cannot be accomplished in a vacuum. As I have discussed, we need to both expand and improve veterinary education and employment opportunities so that veterinarians are both able and willing to achieve higher standards of care for a wider range of animals. And as I will discuss in a moment, we also need to expand and improve relatively captive spaces for animals, such as rescues and sanctuaries, as well as relatively wild spaces for animals, such as parks and reserves, so that veterinarians have an infrastructure within which they can do this work. And while I have focused on veterinarians here, similar remarks apply for many other people, too, ranging from architects to zoologists. We can empower many people to care for nonhuman animals, but we need to do a lot to make that happen.

5.8. Including animals in infrastructure decisions

Seventh, we can include animals in infrastructure decisions. If we want to improve human and nonhuman lives simultaneously, then we need to make infrastructural changes that can address the direct and indirect harms of pandemics, climate change, and other threats for as many of us as possible. This involves asking two related questions. First, when we consider human and nonhuman needs together, how much of the world should we develop and how much should we leave undeveloped (or restore to a less developed state)? Second, when we consider human and nonhuman needs together, how can we better support nonhumans in all environments, ranging from relatively developed spaces such as urban and agricultural spaces to relatively undeveloped spaces such as forests and oceans?

Regarding how much of the world to develop and how much to leave undeveloped, many people believe that we should reduce deforestation and development and increase reforestation and rewilding substantially.[43] As we have seen, current rates of deforestation are contributing to biodiversity loss, pandemics, climate change, and other such problems.[44] Meanwhile, a 2019 study estimates that the planet can support about 25% more forested land, and that if humans planted about 500 billion trees, we could reduce atmospheric carbon by about 25%.[45] Of course, a lot depends on details, such as how much money this process would cost, how effective this process would be, and how else this money and land might be used. But plausibly, reforestation efforts that keep these factors in mind can be helpful.

How might considering nonhuman animals affect this discussion? It would lead us to consider the impact of these efforts not only on species and ecosystems but also on individual animals. For instance, we can expect that fewer wild animals would live in a more developed world and that a higher proportion of wild animals would live in closer proximity to humans. In contrast, we can expect the opposite in a less developed world. Which outcome is best for animals overall? This is a hard question to answer, in part because it requires us to answer further questions about well-being and population ethics that we will consider in Chapters 7 and 8. For now, we can note that while reforestation

might be highly valuable from a health and environmental perspective, the direct impacts on nonhumans will be mixed.

Regarding how to make relatively developed or undeveloped spaces safer for animals, we have many options that we can explore. In the case of relatively developed spaces, we can develop them with human as well as nonhuman access needs in mind. For instance, as we discussed in Chapter 4, we can reduce the rate of collisions with animals by installing bird-friendly windows on buildings and vehicles, as well as by installing overpasses and underpasses on transportation systems. We can also create more urban green spaces that benefit humans and nonhumans alike. For example, the more we expand and improve urban parks, the more we can provide humans with beautification, cleaner air, and cleaner water, and the more we can provide nonhumans with relatively natural places to live.

Similarly, in the case of relatively undeveloped spaces, we can design and manage them with nonhuman needs in mind. As many ecologists have noted, if we want ecosystems to be resilient in the Anthropocene, then creating new ecosystems might be more effective than simply preserving current ecosystems or restoring past ecosystems.[46] For example, which trees we plant, and how densely we plant them, will partly determine how much carbon they can store as well as how resilient they can be in the face of fires, floods, and diseases.[47] It will also partly determine which animals will live in these spaces, how these animals will interact, and what kinds of lives these animals will have. If we consider all of these impacts, then we can develop novel ecosystems that balance welfare, health, and environmental benefits.

More generally, since captivity and wildness can both be harmful, we can search for middle-ground solutions that preserve the benefits of these options while minimizing the harms. For example, insofar as we build relatively captive spaces for animals, we can build them more on the model of sanctuaries, where nonhumans can have more freedom and less exposure to human-caused harms, than on the model of zoos or aquariums, where the opposite can easily be true.[48] Conversely, insofar as we build relatively wild spaces for animals, we can build them more on the model of reserves, where nonhumans can have more security and less exposure to natural harms (as well as human-caused

harms, insofar as human activity threatens wild animals), than on the model of nature, where the opposite can easily be true.

When we consider all of these issues together, we might find ourselves pursuing different adaptations, or, at least, pursuing similar adaptations in different ways. Consider the question of how to adapt to coastal flooding. When all we consider is humans, we might think that seawalls are clearly good. However, when we consider nonhumans, too, we might or might not accept that, since seawalls can damage coastal habitats and harm coastal animals, for instance by making it harder for sea turtles to travel back and forth between land and water and maintain nesting sites.[49] Granted, when we consider such impacts, we might still decide that seawalls are net positive in some cases. But even if we do, we might at least be able to reduce or repair the harms that these adaptations impose on nonhuman populations.

When we consider all of these issues together, we might also find opportunities to make needed changes more efficiently. For example, we can make building upgrades much more affordably if we upgrade buildings once, with human and nonhuman needs in mind, than if we upgrade them once with human needs in mind, and then again with nonhuman needs in mind. For this reason, I think that we should aim to link deadlines for human and nonhuman adaptations as much as reasonably possible. For example, if we select 2030 as our deadline for improving building materials to be more energy-efficient, then we should also select 2030 as our deadline for improving window materials to be more bird-friendly. This integrated approach can help us to make our goals more concrete and, as a result, more likely to happen.

5.9. Not blaming or punishing animals for human-caused problems

Eighth, we can stop blaming and punishing nonhuman victims of human activity. As we have seen, some human-caused harms can easily lead to others. For example, when there are outbreaks, fires, or floods, we kill many animals not only through disease spread and habitat destruction but also through violence and neglect. We "exterminate"

animals we see as "pests," "predators," and "invaders"; we "sacrifice" animals in the search for food, medicine, and income; and we "euthanize" or abandon animals who normally depend on us. In many cases we make these decisions even though we have other, more humane options available to us. In many other cases we might not have other, more humane options available to us, but only because we placed ourselves in this situation by treating animals as objects.[50]

First, take our practice of killing "pests," "predators," and "invaders." Not only do we tend to kill these animals as a first resort, but we also tend to kill them in an unnecessarily violent, disrespectful, and dispassionate manner. For example, many states "gamify" violence against animals by framing it as a contest or tournament. This harms animals directly, through increased violence, as well as indirectly, by promoting the idea that violence against animals is a fun family activity. Even if killing animals is sometimes morally necessary, we can still approach it differently. For example, we can train professionals to kill animals in a maximally respectful and compassionate manner, and we can frame this violence as what it is—a necessary tragedy for animals who deserved much better.

We can also reduce the rate of violence against animals in many ways. First, we can pursue structural changes that reduce conflicts between human and nonhuman animals. We have already considered some of these changes, such as infrastructural changes that allow for more peaceful coexistence. In Chapter 6, we will consider other, more controversial options as well, such as population control and genetic engineering programs. Second, we can accept a higher standard for when violence is acceptable. We generally treat violence as acceptable whenever nonhumans pose any threat at all to any human interest at all. Yet as we discussed in Chapter 4, even if we might be warranted in prioritizing human interests over nonhuman interests in some cases, we are not necessarily warranted in doing so in all cases.

Now take our practice of killing animals in search of food, medicine, and income. As with violence against "pests," "predators," and "invaders," this violence is more frequent, disrespectful, and dispassionate than it needs to be. Consider our practice of killing animals for food and income. We can substantially reduce this violence by promoting food and economic justice. For example, if we expand access to

plant-based food systems that can be resilient during pandemics and natural disasters, then humans will have less need to kill nonhumans for food. Similarly, if we expand access to healthcare, housing, and employment, then humans will have less need to kill nonhumans for income. Meanwhile, if we ban the wildlife trade, then humans might have less incentive to kill nonhumans for food and income.

Similarly, consider our practice of killing animals in the search for a cure or vaccine. At present, many researchers believe that animal research is essential for science and medicine. However, this perspective overstates the value of animal research, in part because it understates many of the expected harms of this practice, ranging from animal suffering and death to false positives and negatives regarding toxicity and efficacy.[51] If we start investing less in animal research and more in animal-free alternatives, such as artificial intelligence and organ-on-a-chip methods, then we can improve health outcomes for humans and nonhumans alike.[52] Similarly, and as before, if we ban the wildlife trade and expand access to healthcare, then we can disincentivize the practice of killing wild animals in search of a "miracle cure."

Finally, consider our practice of killing and neglecting animals when we are unable or unwilling to care for them. Once again, this violence is more frequent, disrespectful, and dispassionate than it needs to be. For example, during COVID-19, humans "culled" many captive animals by suffocating them or burying them alive. In some cases, we had other, less harmful options available, but we had no interest in pursuing them. In other cases, we might not have had other, less harmful options available, but only because we treat captive animals as objects, and so we had no budget or plan in place to care for them during a disruption. The more we tax and regulate harmful uses of animals and develop and subsidize animal-free alternatives, the more we can prevent these tragic situations from arising in the first place.

Throughout this chapter, I have argued that reducing and repairing human-caused harm in the Anthropocene requires social, political, and economic change. The social dimensions of change are worth emphasizing here. There is a reason that I use scare quotes when I discuss "pests," "predators," and "invaders," as well as when I discuss "culling," "euthanizing," or "sacrificing" these animals. As with other speciesist tropes, such as the use of object language (e.g., "it" and

"that") rather than subject language (e.g., "they" and "who") to refer to animals, these terms function to normalize violence against animals. In particular, they promote the convenient lie that many animals are nothing more than threats, and that violence against these animals is nothing more than a kindness.

This is why care ethicists such as Carol Adams have long argued that, if we want to change our behavior, then we have to change our language, too.[53] For instance, what if we stopped framing animals as invaders when they search for new sources of food, water, and shelter in a changing climate and started framing them as refugees? Of course, given the many differences between humans and nonhumans, and given that our treatment of even human refugees is far from ideal, this change would not be enough by itself. But it might help. For instance, we might develop more empathy for nonnative animals, and we might also consider the interests of native and nonnative animals more equitably, rather than considering the interests of native animals much more than the interests of nonnative animals.

5.10. Conclusion

Even the relatively moderate steps discussed in this chapter can make a major difference. If we were to do everything recommended in this chapter, the world would be transformed. We would substantially reduce the harm that we cause to many human and nonhuman animals, in part by substantially reducing the risk of pandemics, climate change, and other such global threats. And we would substantially increase the support that we provide for many human and nonhuman animals, in part by substantially increasing resilience against threats that pandemics, climate change, and other such global changes can amplify. Perhaps most importantly, we would build an infrastructure that includes humans and nonhumans alike, so that future generations will be able to support everyone more effectively than we currently can.

Still, as important as these steps are, they are ultimately incomplete and transitional. Many questions remain about what else we should do in the short term and, especially, in the long run. For example, in cases where the needs of nonhumans seem to conflict with the needs of

marginalized humans, what should we do? In cases where the needs of nonhumans seem to conflict with the needs of species, what should we do? To what degree, if any, should we consider improving nonhuman well-being through methods such as population control or genetic engineering? What kind of legal and political status and representation should nonhuman animals have, and to what degree, if any, will we be able and willing to sacrifice human interests and needs for the sake of nonhuman interests and needs in the future?

Many questions remain about other, more fundamental matters, as well. Which animals have the capacity for well-being, and how much well-being can they have? What is the baseline for a life worth living, and which animals currently have lives worth living? To what degree should we evaluate policies in terms of expected aggregate impacts, and to what degree should we evaluate them in terms of other considerations as well, such as rights, virtues, and relationships? How can we answer these questions responsibly, given the limits of our human perspectives? And, with all that in mind, is our current world a good or bad place for animals overall? Is our current trajectory likely to help or harm animals overall? And are particular mitigation or adaptation efforts likely to help or harm animals overall?

In the next three chapters, I will consider some of the questions about politics, well-being, and population ethics that we need to ask in order to determine what to do in the long run and how to do it. While we can, and should, take many of the steps here without answering these hard questions, we will not be able to decide what to do in the long run until we make progress on these issues. Fortunately, I think that taking many of the steps here is part of what will allow us to make progress on these issues. That is, I think that taking these steps will not only help many humans and nonhumans in the short term but also help us to build knowledge, power, and political will toward helping humans and nonhumans more effectively in the long run. Indeed, I think that this is where most of the value of taking these steps lies.

6
Animals, conflict, and politics

6.1. Introduction

I have argued that we have a duty to include animals in health and environmental advocacy and policy, and I have proposed that we start by reducing our use of animals and increasing our support for animals in ways that benefit humans, too. However, I have noted that, while human, nonhuman, and environmental interests are more aligned than many people assume, they might not always—or, indeed, ever—be fully aligned. I have also noted that our basic social, political, and economic structures might be limiting how much progress we can make at present. Thus, as we make work on the issues discussed in the previous chapter, we should think about these broader and deeper issues as well, so that we can create the conditions necessary to reduce and repair human-caused harms as much as possible in the future.

Many of the harder questions that we need to ask are legal and political. Our exploitation and extermination of nonhuman animals are partly rooted in our exclusion of nonhuman animals from our legal and political communities. In most states, nonhuman animals are classified as objects under the law. They have no rights at all, which means that they lack both negative rights (i.e., rights of noninterference) and positive rights (i.e., rights of assistance). And while we can make progress within this exclusionary framework, for instance by taking the steps discussed in the last chapter, there is a limit to how much progress we can make without altering the framework itself. In the long run, we need to seriously consider whether and how to expand our legal and political communities to formally include other animals.

My aim in this chapter is to consider a series of questions that we need to ask in order to make our long-term task more concrete. How can we resolve apparent trade-offs between human, nonhuman, and environmental needs in hard cases? When, if ever, should we be willing

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to alter nonhuman animals or populations to improve nonhuman lives? Should we recognize nonhumans as persons under the law, or as citizens of political communities? How, if at all, can we represent the interests of nonhumans in the political process? While these issues are all more general than the health and environmental issues discussed in previous chapters, examining them here will illustrate why multispecies justice is currently hard to achieve—and what we might be able to do to make it easier to achieve in the future.

Once again, my discussion here will focus on the big picture. I will not discuss all of the questions that we need to ask, nor will I discuss any particular question in much detail. Instead, I will attempt to motivate the idea that there are no simple or universal answers to these questions. If we think holistically and structurally about human, nonhuman, and environmental issues, then we can prevent many conflicts from arising in the first place. But insofar as conflicts still arise, we will need to think contextually and pluralistically about how to resolve them. And while we might not know what kind of legal and political systems we should build yet, we can at least be confident that they should be substantially different, and substantially more inclusive, than our current, anthropocentric legal and political systems.[1]

6.2. A broad, pluralistic coalition

As we have seen, the impacts of human activity on humans, nonhumans, and the environment are deeply interconnected. Our exploitation and extermination of nonhuman animals are not only harming many nonhuman animals but also contributing to public health threats such as pandemics and environmental threats such as climate change. Additionally, public health threats such as pandemics and environmental threats such as climate change both create and amplify a wide range of threats for humans and nonhumans alike. These links create an opportunity for coalition building across human rights groups, animal rights groups, and environmental protection groups. We can and should work together across movements because, when the problems that we face are linked, our solutions should be linked, too.[2]

These opportunities exist for mitigation as well as for adaptation. On the mitigation side, we can work together to resist the practices that harm humans and nonhumans alike, including factory farming, deforestation, and the wildlife trade. On the adaptation side, we can work together to assist the victims of these activities, including the many human and nonhuman animals who will do badly in a world reshaped by pandemics and climate change. If we do this work together, then we will be more likely to identify mutually beneficial solutions that reduce and repair the harms of human activity as effectively and efficiently as possible. We will also be more successful at promoting these solutions, since we will have a broad, pluralistic coalition of groups supporting a relatively unified vision of global change.

In fact, opportunities for coalition building are even broader, and deeper, than I have space to fully discuss here. While the industries that I am discussing here are responsible for many of our shared health and environmental problems, they are not responsible for all of them. Other industries, such as energy and transportation, are responsible for many of them as well. More fundamentally, part of what allows these industries to cause so much harm are legal, political, and economic systems that allow humans to pursue our own self-interest without sufficient consideration for everyone we might be harming. Liberalism, democracy, and capitalism, on particular interpretations, are all implicated in these harms. We can, and should, have a shared interest in reforming or replacing these systems.[3]

Even more fundamentally, what allows these industries and systems to cause so much harm is a human tendency to see ourselves, and others like us, as more important than everyone else. In every culture, we create a conception of what it means to be fully human, or fully a person, based on the individuals who hold the most power and privilege in that culture. We then rank individuals based on the degree to which they have these traits, and we use these rankings to rationalize practices that impose disproportionate burdens on oppressed groups in exchange for disproportionate benefits for privileged groups. Racism, sexism, ageism, ableism, classism, speciesism, and more are all connected to this general tendency. We can and should have a shared interest in resisting these dynamics as well.[4]

But while these links across issues and movements create opportunities for coalitions, they create threats for coalitions as well. For example, as we have seen, insofar as we take a single-issue approach to our work, we might be satisfied with solutions that reduce harms for one group without reducing harms for other groups. We might even be satisfied with solutions that reduce harms for one group while increasing harms for other groups, either as a means to this end or as a side effect of our work. For example, it can be easy for human rights groups to support solutions that either neglect animals or actively harm animals unnecessarily. It can also be easy for animal rights groups to support solutions that either neglect humans or actively harm humans unnecessarily. We will consider a few examples in a moment.

More fundamentally, disagreements about ends and means can threaten coalitions as well. We might agree that our current industries and systems are bad, but we might disagree about which industries or systems would be better. For example, should we seek to abolish or merely strictly regulate animal agriculture, deforestation, and the wildlife trade? What about liberalism, democracy, and capitalism, on particular interpretations? Additionally, should we pursue these goals through revolutionary action that seeks to build new industries and systems from the ground up, or through reformist action that seeks to build new industries and systems through incremental reforms to current industries and systems? Insofar as we disagree about these questions, we can encounter tensions within and across groups.[5]

While I will not be able to discuss all of these issues in this book, I will make two general comments about them here (as well as discuss some of them a bit more later on). First, while we might not be able to eliminate the harms that we cause to humans, nonhumans, and the environment, we can still minimize these harms if we work together, and if we think about our work both holistically and structurally. This will help us in two related ways. First, it will help us prevent trade-offs from arising in the first place, by identifying positive sum solutions that reduce harm to humans, nonhumans, and the environment all at the same time. Second, it will help us resolve remaining trade-offs in an informed, thoughtful manner, by carefully assessing the risks and benefits for everyone involved when setting priorities.

Second, while we might not be able to eliminate disagreement about what to do and how to do it, we can still develop a shared framework that allows us to work together on shared goals in spite of our disagreements. For example, even if we disagree about whether we should abolish animal agriculture, we might at least agree that we should abolish factory farming. Additionally, pluralism can be healthy. When we have a broad, pluralistic movement that includes people with different beliefs, values, and practices, we can make more progress than might otherwise be possible by learning from each other and adopting a division of labor. This is part of why my aim in this book is not to develop a particular moral theory, but rather to develop a general moral framework that can serve as the basis for coalition-building.

6.3. Holistic and structural change

With that in mind, consider some trade-offs that we might encounter in our mitigation efforts, focusing on food production. First, there can be trade-offs between health and environmental priorities. For instance, when we provide farmed animals with less space, we contribute less to climate change, since we consume less land, but we also contribute more to pandemics, since we produce more disease spread. Similarly, when we replace beef with chicken, we contribute less to climate change, since we consume less land and produce less methane, but we have mixed effects for pandemics, since we consume less land but consume more animals and, potentially, antibiotics. For these reasons, advocates might sometimes favor different policies depending on whether they have health impacts, climate impacts, or both in mind.

There can also be trade-offs between animal welfare, health, and environmental priorities. For instance, there can be trade-offs between animal welfare and environmental priorities in the same kind of way that there can be between health and environmental priorities. In particular, although intensive confinement might be better for the climate, it is worse for animal welfare since farmed animals suffer more in such conditions. And as we have seen, although chicken production might be better than beef production for the climate, it is worse for animal

welfare, too, since many individual chickens will suffer and die for each individual cow who will not. For these reasons, advocates might sometimes favor different policies depending on whether they have human impacts, nonhuman impacts, or both in mind.

There can be other kinds of trade-offs as well. For example, suppose that we agree that a plant-based food system would be best for humans, nonhumans, and the environment overall. Even in that scenario, it would remain the case that many humans and nonhumans can be harmed during the transition to a plant-based food system. It would also remain the case that a plant-based food system can be harmful too, since, for instance, it can exploit workers and harm wild animals as well (although an animal-based food system tends to be worse in these respects at scale since it requires both animal farming and plant farming for animal feed). It will take care to assess these impacts well. But if we design future food systems without considering these impacts, then we can easily cause additional and unnecessary harm.

But when we think about these issues holistically and structurally, focusing on areas of partial consensus, we can make substantial progress. For example, we can agree that a mostly or fully plant-based system is best for humans, animals, and the environment, and, so, that we should replace animal products with plant products, not with other animal products. We can also agree that, in order to build this food system ethically and effectively, we need to combine it with other efforts to promote social, economic, and environmental justice, so that we can support consumers, producers, workers, farmed animals, wild animals, and other stakeholders as much as possible along the way. This is part of why One Health and the Green New Deal are such powerful frameworks: because they remind us of the need to consider all such links.

Similarly, consider some trade-offs that we might encounter in our adaptation efforts, focusing on urban adaptations. First, there can be trade-offs between health and environmental priorities. For instance, when we increase urban density, we contribute less to climate change since we consume less energy per capita, but we might contribute more to pandemics since we might produce more disease spread per capita. This kind of decision can involve other trade-offs for humans, as well; for instance, when we increase urban density, our cities might have

more options for housing and employment, but they might also have more traffic and pollution, depending on the details. So, once again, advocates might sometimes favor different policies depending on which impacts they have in mind.

There can also be trade-offs between animal welfare, health, and environmental priorities. For instance, when we view urban animals as means to human ends rather than as ends in themselves, we might favor saving them to the degree that we view them as having net positive value for us, and we might favor killing them to the degree that we view them as having net negative value for us. And as we have seen, this instrumentalizing approach to wildlife management can easily lead to a policy of harming and killing animals as a first resort whenever they appear to pose any kind of threat at all (even a trivial threat) to any kind of human interest at all (even a trivial interest). So, once again, advocates might sometimes favor different policies depending on which impacts they have in mind.

As with food system reform, there can be other kinds of trade-offs as well. For example, suppose that we agree that relatively dense cities are best for humans, nonhumans, and the environment overall. Even in that scenario, it would remain the case that many humans and nonhumans can be harmed during the transition to denser cities. It would also remain the case that denser cities can be harmful too, since, for instance, they would cause some nonhuman populations to expand and others to contract, and they would also cause human and nonhuman residents to interact differently, with, at best, mixed effects for individual residents. Once again, it will take care to assess these impacts well. But if we design future cities without considering these impacts, then we can easily cause additional and unnecessary harm.

But when we think about these issues holistically and structurally, focusing on areas of partial consensus, we can once again make substantial progress. In general, when we consider humans, nonhumans, and the environment together, we can select adaptations that reduce and repair harm to everyone impacted by our activity. For example, insofar as humans and nonhumans will have conflicting needs, we can use social services (such as food and healthcare) and infrastructure changes (such as public transportation and wildlife corridors) to dissolve these conflicts as much as possible. And, insofar as some conflicts

remain, we can attempt to resolve them as respectfully, compassionately, and equitably as possible—knowing that doing so will require making difficult decisions involving substantial trade-offs.

6.4. Trade-offs between humans and nonhumans

With that in mind, it will help to consider some possible trade-offs between human, nonhuman, and environmental needs, starting with possible trade-offs between humans and nonhumans. As we have seen, humans will need to sacrifice at least some of our current privileges in order to reduce and repair harm to nonhuman animals. For example, when humans participate in cultural or religious practices that involve harming animals, it can be hard to ban harms to animals without interfering with these practices. Moreover, when humans are at increased risk of food insecurity, housing insecurity, state violence, or mass incarceration, it can be hard to ban harms to animals without adding to these risks. We need to consider these issues carefully so that we can reduce harm to humans and nonhumans alike.

Take conflicts involving cultural and religious practices. On one hand, harming and killing someone unnecessarily is morally wrong no matter who does it. On the other hand, when many groups contribute to such harms, it can be easy for the state to disproportionately target marginalized groups for regulation or enforcement. Moreover, even insofar as the state attempts to target all groups equally, these attempts might still disproportionately impact marginalized groups, since marginalized groups might have less power to resist these efforts. Either way, the result might be that the state allows mainstream groups to cause harm while preventing marginalized groups from doing so, even in cases where mainstream groups cause much more harm than marginalized groups in the aggregate.

Many cases involve additional complexity. For instance, in 2020 the European Court of Justice upheld a "Flemish decision to require the use of stunning for livestock on animal rights grounds."[6] However, many people interpreted this decision as, in effect, a ban on halal and kosher slaughter, which can involve killing animals without stunning them first. How should we assess this ruling? On one hand, insofar as

killing animals without stunning them first is unnecessarily harmful, it makes sense to ban this practice, without exception. On the other hand, many other practices in animal farming are unnecessarily harmful, too, and yet they remain legal in the European Union and elsewhere. Under these circumstances, it might seem problematic to single out marginalized cultural and religious practices for regulation.

Similarly, take taxes and regulations. On one hand, we need to increase the cost of harmful practices in order to incentivize less harmful alternatives. On the other hand, when the state increases the cost of harmful practices, these changes tend to disproportionately impact humans with relatively little capital. For example, when the state makes harmful practices more expensive, lower-income people tend to lose options more than higher-income people, since they tend to be less able to pay these additional costs. Similarly, when the state makes harmful practices illegal, lower-income people tend to be more vulnerable to arrest, prosecution, conviction, and life-altering punishment than higher-income people, since they tend to be less able to defend themselves against these state actions.

Once again, many cases involve additional complexity. For example, some farm workers abuse animals more than their jobs require. When they do, should the state hold them accountable for animal cruelty? This is a difficult issue. In an ideally just society, nobody would be permitted to abuse animals. But of course, we do not live in an ideally just society. In many current societies, the ordinary violence that factory farm workers are required to carry out is much more harmful than, as well as a partial cause of, any extra violence they might choose to carry out. Moreover, in many current societies, holding workers accountable for abuse would subject them to a classist, racist, and violent criminal justice system. Under these circumstances, it might seem problematic to single out workers for accountability.[7]

While there are no easy solutions to these problems, I think that it helps to keep in mind two general points. First, a lot depends on proportionality. If we want legal bans to be both ethical and effective, then we should prioritize banning unnecessarily harmful mainstream practices over unnecessarily harmful marginalized practices, all else equal. We should also prioritize accountability for individuals and institutions more responsible for harm over individuals and

institutions less responsible for harm overall, all else equal. Of course, we will need to consider many other factors as well, and we will need to make difficult trade-offs in many cases in practice. But insofar as we consider these factors, we can address more harm while imposing less risk on marginalized human groups, all else equal.

Second, a lot depends on related changes. Taxes and bans on harmful practices can be difficult for people who have no other options for food or income. But as we have seen, the more we work to expand the options that people have (for instance, by subsidizing plant-based foods and implementing universal healthcare, housing, basic income, and so on), the less regressive these taxes and bans will be. Similarly, holding people accountable for illegal behavior can be unacceptable when our criminal justice system is as classist, racist, and violent as many currently are. But the more we work to improve criminal justice systems (for example, by banning violent practices and shifting resources away from policing and toward community care), the more acceptable holding people accountable for harmful behavior will be.

With that said, even if we pursue all the holistic and structural changes available to us, we will only, at best, reduce conflicts between humans and nonhumans. And insofar as conflicts remain, we will need to think carefully about how to resolve them. If the moral framework that I have developed in this book is roughly correct, then this will mean helping animals as much as reasonably possible and harming them only when necessary for self-defense, other-defense, or other such purposes. While we can debate which uses of animals are necessary, there is no debating that the vast majority of our current uses of animals are not. The question, then, is not whether to end these uses of animals, but rather, only, how best to end them so that we can reduce and repair harms to humans and nonhumans alike.

6.5. Trade-offs between individuals and species

As we have seen, there can also be tensions between individuals, species, and ecosystems, since the needs of individual animals can sometimes differ from the needs of the species and ecosystems of which they are part. For example, we might seek to protect species by moving

animals to either captive environments or new wild environments. Similarly, we might seek to protect ecosystems through reforestation or rewilding. But are these practices good or bad for the animals involved, and do they respect or violate the rights of these animals? Underlying these questions are difficult further questions about, for instance, what kind of moral value individuals, species, and ecosystems have, as well as about whether we should be aspiring to preserve or restore current or past species and ecosystems in the first place.

Consider moving animals to either captive environments or new wild environments. On one hand, harming animals unnecessarily is wrong whether we do it to make food or clothing that we like or to conserve species or ecosystems that we like. On the other hand, we might wonder whether these interventions do, in fact, harm animals unnecessarily. First, all three options—keeping animals where they are, moving them to captive environments, or moving them to new wild environments—can harm them. So the question is not whether to harm animals but rather how to do so as little as possible. Second, insofar as these interventions are necessary for conservation and conservation is necessary for human and nonhuman well-being, we might think that at least some harm to individuals is, in fact, necessary.

There are other complexities to consider as well. We have already seen that assisted migration can produce unintended side effects, both to the target species and to other species. Additionally, part of why moving animals to either captive environments or new wild environments seems necessary is that ecosystems are now changing too rapidly for animals to be able to naturally adapt. But for the same reason, we might wonder if the environments that currently work for particular animals will stop working for them in the near future. So if we aspire to conserve species in these ways, then we might be committing to either keep them in captivity forever or keep moving them over and over again. Both of these scenarios raise hard questions about animal welfare and rights as well as about achievability and sustainability.

Similarly, consider reforestation and rewilding. On one hand, these activities will create new animals, and many of these animals will likely have bad lives. On the other hand, many of these animals will likely have good lives as well. And as we will see in Chapters 7 and 8, it is currently an open question whether expanded wild animal populations

will have net positive or negative well-being, as well as whether and to what degree this consideration determines what we morally ought to do. Additionally, and as mentioned previously, insofar as reforestation and rewilding are necessary for pandemic and climate change mitigation *and* pandemic and climate change mitigation are necessary for promoting human and nonhuman well-being, we might think that at least *some* foreseeable harm to future animals is necessary.

Once again, there are other complexities to consider as well. As we will see in Chapters 7 and 8, whether reforestation and rewilding are good for wild animals overall depends not only on how these interventions impact wild animals but also on which wild animals count, how much they count, and in what ways they count. It also depends on many additional details. For instance, do we need to intervene in natural systems only once in order to produce the intended benefits for humans, nonhumans, and the environment? Or do we instead need to intervene on an ongoing basis in order to produce these benefits? And if we accept the latter answer, do we trust that we have the knowledge, power, and political will necessary to make reforestation and rewilding net positive interventions in the long run?

While there are no easy solutions to these problems, I think that it helps to keep in mind the same two general points as before. First, and as before, a lot depends on proportionality. If we want to help wild animals ethically and effectively, then we should prioritize interventions that can help them at scale. We need to do much more research to determine what those interventions are. But based on what we already know, I expect that the answer will not involve preserving species and ecosystems in their present state or restoring them to any particular past state, but will rather involve causing or allowing them to change over time (within certain moral and practical limits, about which more in a moment), and then supporting the individual animals who will exist in these species and ecosystems as best we can.

Second, and as before, a lot depends on related changes. We currently live in a world where many animals have no good options at all. Life in captivity has many downsides. Life in the wild has many downsides. And, of course, nonexistence has many downsides, too. And in the Anthropocene, humans are at least partly responsible for this predicament. This means that we currently face many tragic

choices, where we have to select the "least bad" option for many animals. But it also means that we can, and should, attempt to create more options so that we face fewer tragic choices in the future. For instance, the more we include animals in education, employment, social services, and infrastructure decisions, the more we can increase the chance that future animals will have better options for living well.

With that said, as with conflicts between humans and nonhumans, even if we pursue all the changes available to us, we will only, at best, reduce conflicts between animals, species, and ecosystems. And whether species and ecosystems have intrinsic or merely instrumental value, they still have a lot of value, and so we still need to think carefully about how to resolve these conflicts. When we do, we might sometimes find that we should sacrifice individual animals for the sake of species and ecosystems (or, at least, for the sake of other animals who depend on these species and ecosystems). But we might also sometimes find that we should do the reverse. At a minimum, we will need to prioritize the interests and needs of individual animals much more than we typically do in conservation biology.[8]

6.6. Trade-offs between animals

Finally, and relatedly, there can also, of course, be tensions between helping some animals and helping other animals, or even between helping particular animals in some ways or helping those animals in other ways. We have already considered some examples, and we will consider others in the next two chapters. For now we can focus on two kinds of intervention that will be particularly controversial in the Anthropocene: population control and genetic engineering. In the case of population control, we would intentionally alter nonhuman populations to improve animal welfare (as well as, perhaps, to achieve other valuable goals). In the case of genetic engineering, we would intentionally alter nonhuman genetic traits to improve animal welfare (as well as, perhaps, to achieve other valuable goals).

Most current forms of nonhuman population control and genetic engineering are clearly morally unacceptable. At present, we typically alter nonhuman populations to benefit humans, not to benefit the

members of these populations. For example, we expand domesticated animal populations for food, clothing, and research, and we contract wild animal populations to clear land for agriculture, development, and transportation. Moreover, we typically alter these populations in unnecessarily harmful ways. For example, we expand domesticated animal populations in part by forcibly impregnating animals, and we contract wild animal populations in part by killing them for sport.[9] We also do very little to mitigate the risk of harmful side effects, such as trophic cascades that can harm many animals.

But nonhuman population control and genetic engineering can take different forms than this. In particular, there might be cases in which altering nonhuman populations is good for the members of these populations or, at least, for the animals who interact with them. There might also be cases in which we can alter nonhuman populations relatively noninvasively. For example, altering population levels by altering the environments in which animals live so that individuals have different incentives regarding reproduction is, while somewhat invasive, much less invasive than altering population levels by, say, forcibly impregnating or killing animals.[10] And of course, as we have seen throughout this book, insofar as we pursue interventions that can have harmful side effects, we can do much more to predict and control them.

Suppose that we agree that many actual forms of population control and genetic engineering are morally unacceptable and that at least some possible forms of these interventions are morally acceptable. That leaves the difficult question of what to say about everything in between. For example, can we permissibly pursue invasive, harmful, or lethal interventions in cases in which these interventions are necessary to improve animal welfare as much as possible and in which we work to mitigate the harmful side effects as much as possible? Examples might include spaying, neutering, or killing members of overpopulated species as painlessly as possible, or using gene drives to make particular species less likely to contract or spread zoonotic diseases that can harm humans and nonhumans alike.[11]

While we would of course need to evaluate each intervention on its own merits, we can make a few general observations about them all. On one hand, we still have reason to be wary about these interventions.

Even if these interventions are less invasive, harmful, or lethal than most current interventions, this is, of course, a low bar. To the degree that they are still invasive, harmful, or lethal, we should still adopt a presumption against them. And while we might aspire to pursue these interventions respectfully and compassionately and mitigate negative side effects, we should, as always, be mindful of the limits of our knowledge, power, and political will. We have a long history of wielding this kind of power less responsibly than we should, and we need to take this history seriously when calibrating our expectations.

On the other hand, as I have now repeatedly emphasized, we are now wielding this power whether we like it or not, and so the question that we face is not whether to wield it, but rather how to wield it thoughtfully. Do we want to intervene in the lives of other animals only through factory farming, deforestation, the wildlife trade, and other such practices, or do we instead want to intervene at least partly through sincere attempts to reduce and repair the harms caused by these practices, too? As always, we also have to consider the scale and complexity of harm in the Anthropocene. Are we prepared to harm or kill animals when, for instance, we have no other way to spare these or sufficiently many other animals from massive and unnecessary human-caused suffering and death?

Striking a virtuous balance between risk tolerance and risk intolerance in this context will be difficult. On one hand, we need to be cautious about altering nonhuman species and populations. It would be bad for us to overestimate our ability to predict and control such changes, and it would also be bad for us to respond to the suffering of vulnerable others primarily by seeking to control or eliminate the *sufferers* rather than primarily by seeking to control or eliminate the *sources of their suffering*.[12] On the other hand, we need to be willing to take risks in our efforts to address human-caused global threats. When human activity is changing the world too fast for many species to be able to adapt, we should keep an open mind about whether, when, and how we might be able and willing to help some species out.

When considering these trade-offs, I think that it can help to keep in mind the same two general points as in the previous two sections. First, it can help to keep in mind proportionality. For instance, which interventions are likely to provide persistent support for many animals

in many environments, and which are likely to provide only temporary support for some animals in some environments?[13] And second, it can help to keep in mind related changes. For example, which environmental changes can either mitigate the risks involved with particular interventions or eliminate the need for these interventions? The more we can change the world to accommodate animals as they are, and then support animals within those environments, the less we might need to alter these animals or populations, too.

6.7. The legal status of animals

Of course, solving all these problems will be difficult in the context of legal, political, and economic systems that treat nonhuman animals as objects to be exploited and exterminated rather than as subjects to be respected and supported. So while we can, and should, attempt to improve the lives of animals within existing systems, we should also attempt to change existing systems so that we can accomplish more for animals in the future than we can at present. With that in mind, I will close this chapter by considering three basic changes that we can pursue for animals: First, we can improve the legal status of animals. Second, we can improve the political status of animals. And third, we can extend legal and political representation to animals. We can start in this section by considering the idea of legal status for animals.

In many legal systems, there are two kinds of basic legal status that a being can have: A being can be a legal person, with the capacity for rights, or a legal object, without the capacity for rights.[14] And at present, many legal systems treat all and only humans (as well as some stand-ins for human interests, such as corporations) as legal persons. This, of course, severely limits how we can use the law to protect nonhumans. Granted, we can still protect nonhumans as we might protect any other object. For instance, when we "own" animals, we can protect them as our "property." And when we have public interest in animals, we can protect them as a matter of public interest. But these options leave us with little recourse when the "owners" are the abusers, or when we lack public interest in particular animals.

This status quo is unacceptable. Nonhuman animals are subjects, not objects, and they need to have a legal status that reflects that. The question is what kind of legal status they should have. Here we have three general options. First, we can extend legal personhood to all sentient beings, human and nonhuman alike. Second, we can preserve legal personhood for humans while creating an alternative kind of legal status for nonhumans. Third, we can create an alternative kind of legal status for all sentient beings, human and nonhuman alike. These options are all worthy of consideration, since we should never take current frameworks, including frameworks for legal status, for granted. With that said, since the first two options are currently more viable than the third, I will focus on the first two options here.

First, consider the idea of extending legal personhood to nonhuman animals. The Nonhuman Rights Project (NhRP) is pursuing this option in the United States in part by filing habeas corpus lawsuits on behalf of chimpanzees, elephants, and other captive animals.[15] The NhRP contends that our current conception of legal personhood, properly interpreted, implies that these animals are legal persons. This is because our current conception of legal personhood does not require persons to be members of particular species or to have particular rights or duties. Instead, all it requires is that persons have at least *some* rights. This is why we rightly hold that all humans are persons in spite of our many differences. It is also, the NhRP contends, why we should hold that at least some nonhumans are persons.[16]

Now consider the idea of creating an alternative legal status for nonhuman animals. In 2017, Mexico City ratified a new constitution according to which nonhuman animals are "sentient beings" to whom we have moral and legal duties.[17] The French Parliament, the provincial government of Quebec, the Congress of Colombia, and other governments have passed similar laws, extending legal status to animals in theory if not always in practice.[18] If we take this language seriously, then these governments are disrupting the binary between legal persons and legal objects by creating a third, middle-ground category of sentient beings. According to this alternative legal framework, all and only humans are legal persons, all and only nonhuman animals are sentient beings, and everything else is an object, more or less.[19]

These approaches have complementary pros and cons. On one hand, the benefit of the personhood approach is that it preserves the relative simplicity and egalitarianism of our current legal framework. Granted, some legal persons might have legal duties, whereas others might not, and some legal persons might have particular legal rights that others might lack. But insofar as we all have legal rights that reflect our individual interests and needs, we all count as legal persons. However, the cost of this approach is that classifying nonhumans as legal persons might be hard to do in the short term. For example, while the NhRP tends to make stronger arguments than the opposition, they have yet to win a case, seemingly because many humans find the idea of nonhuman personhood so strange.

Conversely, the benefit of the sentient being approach is that classifying nonhumans as sentient beings might be easier to do in the short term, as evidenced by the fact that multiple governments have already adopted this framework. But the cost of this approach is that it makes our legal framework more complex and hierarchical, and it raises difficult questions about the nature of this middle-ground category. For example, can sentient beings have legal rights that reflect their interests and needs? If so, how is that different from being a legal person? If not, how is that different from being a legal object? Also, why do all and only humans count as legal persons and all and only nonhuman animals count as sentient beings, despite the fact that there can be variation within species and similarity across them?

Without attempting to say which approach is better here, I will simply make an observation. No matter which option we select, we should hold that animals are subjects, not objects, and that they should have a legal status that reflects that. And once we do, everything will have to change, starting but not ending with practices such as factory farming, deforestation, and the wildlife trade. After all, as we have seen, these practices cause massive and unnecessary harm to trillions of nonhuman animals per year directly, as well as to many other nonhuman animals per year indirectly, via pandemics, climate change, and other threats. Whether we extend existing legal frameworks to nonhumans or create new legal frameworks for them, we will still need to work to end the practices that are harming so many animals so profoundly.[20]

6.8. The political status of animals

Now consider the idea of political status for animals. Currently, many states recognize humans not only as persons but also as members of political communities. With personhood comes universal negative rights. These are rights of noninterference; they require that others not interfere with us unnecessarily. Additionally, with membership in a political community comes positive rights within that political community. These are rights of assistance; they require that others, via public services, support us in pursuing our ends in life. So the question we are now asking is whether nonhuman animals should have political status in this sense. Should particular animals have positive rights or claims within particular political communities? If so, which animals should have which rights or claims within which political communities?

As with legal status, the status quo is that the vast majority of animals in the world do not count as members of any political community. But once again, this status quo is unacceptable. Humans and nonhumans alike are residents in particular territories, and humans are increasingly impacting where, if at all, nonhumans can reside and how, if at all, they can reside there. Nonhuman animals should have a political status that reflects this reality. As before, this leaves us with three general options: We can apply existing membership categories to humans and nonhumans alike, preserve existing membership categories for humans and create new ones for nonhumans, or create new membership categories for humans and nonhumans alike. I will once again focus on the first two options here, particularly the first.[21]

In their influential book *Zoopolis*, Sue Donaldson and Will Kymlicka argue that we can extend existing membership categories to nonhuman animals in three general ways. First, we can classify domesticated animals as *citizens*, with membership rights within particular "human" political communities.[22] Of course, this is not to say that domesticated animals should have all the same membership rights as humans, but is rather only to say that they should have membership rights that make sense for them. For example, while it might not make sense for cows or pigs to have the right to run for office or serve on a jury, it might make sense for them to have a right to reside in and return to their territories,

as well as a right to have their interests represented in decisions that affect them. If so, then they should have those rights.

Second, Donaldson and Kymlicka argue, we can classify wild animals as *sovereigns*, with membership rights within their own political communities.[23] This means that wild animal populations have a right to collective self-governance, and that our primary duties to them are negative. That is, we have a duty not to harm or interfere with them, but we do not have a duty to benefit or assist them. However, there can be exceptions. For example, when a sovereign nation is experiencing a catastrophe (especially a catastrophe to which we have contributed), then we might have a special duty to benefit or assist them for that reason. Similarly, when wild animals are experiencing a catastrophe (especially a catastrophe to which we have contributed), then we might have a special duty to benefit or assist them for that reason.

Finally, Donaldson and Kymlicka argue, we can classify liminal animals (i.e., animals who live within our communities but not under our direct care) as *denizens* within particular "human" communities.[24] This means that liminal animals should have some of the same rights as citizens and some of the same rights as sovereigns. For instance, liminal animals should have a right to some (but not full) social services as well as a right to some (but not full) sovereignty. Of course, the details will vary from case to case. For example, a state might have stronger duties to relatively "domesticated" liminal animals such as cats and dogs than to relatively "wild" liminal animals such as rats and raccoons since these animals might have different interests and needs and we might have different histories and relationships with them.

Importantly, these categories all exist on a spectrum, and how they apply to particular nonhuman populations will be a difficult question in the Anthropocene. As we have seen, human and nonhuman populations regularly experience catastrophes, and we are increasingly complicit in these catastrophes. As a result, when we apply this framework in the Anthropocene, we might find that states increasingly have positive duties to citizens, denizens, and sovereigns alike. Of course, here, too, the details will vary from case to case. For example, a state might have a stronger duty to help wild animals survive a human-caused forest fire than to help them survive a natural forest fire in

theory. But as we have seen, in the Anthropocene it will not always be possible to tell which is which in practice.

As with legal status, different approaches to political status have different pros and cons. On one hand, extending existing categories of membership to nonhumans advances a consistent and inclusive conception of membership. But it appears radical, which makes it less likely to succeed in the short term. On the other hand, creating new categories of membership for nonhumans might appear moderate. But it advances inconsistent and exclusionary conceptions of membership. It also raises questions about what these alternative categories of membership involve. For example, if you are a "noncitizen member" of a political community, do you have a right to representation within that community? If so, how is that different from your being a citizen? If not, how is that different from your being a nonmember?

Without attempting to say which approach is better here, I will simply make the same observation as before. No matter which approach we accept, we should hold that many nonhuman animals have at least some positive rights or claims within our political communities. And, once we do, everything will once again have to change. As we have seen, human activity is causing orders of magnitude more nonhuman than human suffering and death every year, both within our own borders and across borders. While a lot depends on issues that we will discuss later on, we can safely say this for now: Whether or not we extend existing political frameworks to nonhumans or create new political frameworks for them, we will still need to work to support very many of them in light of our role in their predicament.

6.9. Representation for animals

Finally, supposing that we should improve the legal and political status of nonhuman animals, how can we represent their interests and rights within our legal and political systems? We have already discussed some first steps that we can take toward this goal; for example, we can create animal protection agencies or animal welfare offices. But what kind of representation for animals should we aim for in the long run? In particular, how can we represent the interests and rights of nonhuman

animals in the legislative process, and how much weight should we assign to their interests and rights? As we will see in Chapters 7 and 8, these questions are part of what raises concerns about futility and demandingness in this context, and they are part of what makes the difference between the real and the ideal so vast in this context.

Take the question of how we should represent the interests and rights of nonhuman animals in the legislative process. This is no easy task, because of current, and perhaps permanent, limits on our knowledge and power. Regarding knowledge, we need to learn much more about what animals want and need. Regarding power, we need to incentivize humans to represent nonhumans faithfully, in spite of the fact that humans hold a monopoly on political power and human and nonhuman interests sometimes conflict. In the human case, we expect that we can improve our political systems in part by ensuring that all interest groups are empowered to participate in the political process, either directly or indirectly. But in the nonhuman case, we might be skeptical that this kind of strategy will work similarly well.

Fortunately, we do have options for representing nonhuman animals in political systems.[25] First, we should note that nonhuman animals are capable of participating in the political process more than many humans assume. As Eva Meijer, Sue Donaldson, Will Kymlicka, and others have argued, the idea that only humans can have a voice, and that nonhuman politics is a matter of "giving a voice to the voiceless," is, at best, overstated. The problem is not that nonhuman animals lack a voice. Anyone who views footage of farmed animals in a factory farm or slaughterhouse, or of wild animals in a zoo or aquarium, knows that nonhumans are more than capable of telling us what they need. The problem is instead that humans make very little effort to listen to what nonhuman animals are telling us.[26]

Granted, nonhuman animals might not be capable of participating in the political process in the same way that many humans can. But that does not mean that they are incapable of participating. For example, the more we support humane research and education about animal welfare, the more we can make decisions based on what animals really prefer, rather than based on what we assume they prefer. Moreover, the more we support infrastructural changes that allow humans and nonhumans to coexist peacefully in public spaces, the more we can

make decisions in a context where animals are present, rather than in a context where they are absent. While humans might still be responsible for creating, interpreting, and enforcing public policies, we can do much more to consider nonhuman voices in the process.

Furthermore, whether or not nonhuman animals are capable of participating in the political process, we can still represent their interests in democratic systems. In addition to creating animal protection agencies or animal welfare offices, consider two further steps we can take, both of which draw from research on representing future generations in policy decisions.[27] First, we can create public assemblies composed of randomly selected citizens who are tasked with advising the state on matters concerning nonparticipating (or, at least, not fully participating) stakeholders. For example, there can be public assemblies for members of other species, nations, and generations, among other vulnerable constituencies. While such assemblies might lack formal power, they can still make a meaningful difference.[28]

Second, we can create legislative roles, or even legislative bodies, for the purpose of representing nonparticipating (or, at least, not fully participating) stakeholders. For instance, one option is to create a bicameral legislature, with one house representing everyone who can participate in the political process and the other house representing everyone else, such as members of other species, nations, and generations. We can then say that either house can propose legislation but that both must approve it. Of course, we would have to design the incentives, checks, and balances of such a system very carefully. And even if we designed them well, such a system would be highly aspirational and imperfect. But for all that, such a system might still be possible to create, and it might still be better than alternatives.[29]

In addition to asking how to represent the interests and rights of nonhuman animals in the legislative process, we also need to ask how much weight to assign to their interests and rights. Which animals should count, how much should they count, and in what ways should they count? In Chapters 7 and 8, we will consider a series of questions that bear on these issues, such as: Which animals can have well-being and moral status? How much well-being and moral status can they have? And what kinds of outcomes are ideal for human and nonhuman populations? A lot will depend on our answers to these questions.

But plausibly, on any reasonable set of answers, we will need to count members of other species, nations, and generations much more than we currently are—or, even, than we currently can.

Thus, no matter what, the difference between the real and the ideal in this context is likely to be stark. Even in the best-case scenario, we are unlikely to be able or willing to represent the interests of members of other species, nations, and generations fully equitably. No matter how well we structure our political institutions, it remains the case that a relatively small number of humans will be making decisions on behalf of a much larger population of stakeholders. And, in this kind of case, we can expect that humans will produce, at best, highly biased impact assessments and policy decisions.[30] But we should not allow the perfect to be the enemy of the good (or, at least, the less bad). If nothing else, we can represent current and future humans and nonhumans better than we are. And insofar as we can, we should.

6.10. Conclusion

Underlying these questions are foundational questions about what kind of social, political, and economic systems are possible and necessary in the Anthropocene. Many political societies currently aspire to be liberal, democratic, capitalist nation states. These structures have many pros and cons, as do alternatives. We will have to seriously question both the nature and the value of these systems moving forward. What does liberalism mean in a world where nonhuman animals have a right to liberty? What does democracy mean in a world where nonhuman animals have a right to representation? What does capitalism mean in a world where nonhuman animals have property or territorial rights? How much power should nation states have, relative to smaller units such as cities and larger units such as international communities?

But while many questions about our basic legal and political systems remain open, one matter is clear now: Our legal and political systems will have to look much different in the future. For example, it might be that the best approach is to revise systems such as liberalism, democracy, and capitalism to include animals, or it might be that the best approach is to replace these systems with alternatives built

from the ground up to include animals. These options might be different in many ways, but they are similar in the following way: They will both require a radical departure from the status quo. Whether we develop a just multispecies society via reforms to current systems or replacements of those systems, we will still need to fundamentally transform how we relate to vulnerable others through law and politics.

As I have emphasized, we will also need to ask difficult additional questions about which animals count, how much they count, and in what ways they count. For example, when we include animals in law and politics, should we include all animals, or should we include only some? Should we assign equal weight to all animals, or should we assign more weight to some than to others? Should we aim to create more animals with good lives and fewer animals with bad lives, and if so, how can we tell which animals have good and bad lives? Should we aim to improve animal welfare in total, on average, or in some other way, and either way, how can we tell what will accomplish these goals? We need to answer these questions, but we also need to do so with caution and humility, given the limits of our human perspectives.

In Chapters 7 and 8, I will survey these questions about well-being, moral status, creation ethics, and population ethics, and I will show why they matter for health and environmental advocacy and policy. In particular, I will show that our impacts on members of other species, nations, and generations are difficult not only to predict and control but also to evaluate. So, while we can make substantial progress by taking the steps that I have discussed so far, we will not know what kind of world to build for human and nonhuman animals in the long run until we answer these difficult additional questions. However, I will also suggest that taking the steps that I have discussed so far is part of what will allow us to build the knowledge, power, and political will that will be required for ethical and effective future action.

7
Animals, well-being, and moral status

7.1. Introduction

I have argued that we have a duty to include animals in health and environmental advocacy and policy, and, so, to consider the interests of humans and nonhumans holistically when deciding what to do. However, I have also argued that assessing our impacts on animals will be difficult. Not only do we need to estimate the impacts of human policies on human and nonhuman populations, which is already difficult. We also need to estimate the impacts of these population changes on individual humans and nonhumans. This requires us to ask a wide range of questions about well-being and moral status. For example, should we count all animals equally? Or should we count some animals, such as elephants, more than other animals, such as ants? Either way, how might our answers affect our advocacy and policy?

These questions are not only difficult but dangerous. In particular, questions about which animals count and how much they count are difficult to answer because of how little we know about the nature and value of other minds. They are also dangerous to answer because of how biased and ignorant we can be about the nature and value of other lives. At the same time, these questions are unavoidable. We need to make informed estimates about which animals count and how much they count in order to decide what to do. The only alternatives are to either exclude animals entirely (as we mostly do at present) or to rely on our intuitions about whether and to what degree to include them. I believe that making informed estimates about these issues in a thoughtful, precautionary manner is better than these alternatives.

My aim in this chapter is to survey several issues that bear on which animals count and how much they count. Which animals have the capacity for well-being and moral status? Do some animals have a higher capacity for well-being or higher moral status than others? How can

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we resolve uncertainty about these issues? Can we aggregate benefits and harms within and across species? How might moral factors such as rights and practical factors such as demandingness shape and limit our impact assessments? And what follows for advocacy and policy? I will argue that different sets of answers can lead to radically different sets of moral and political priorities. However, I will also suggest that, on any reasonable set of answers, many animals count at least somewhat, and nonhuman animals count a lot overall.

As always, my discussion in this chapter will be selective and general. It will also be simple and abstract. In particular, I will sometimes discuss well-being in simple, mathematical terms—for instance, by asking if an animal who can experience, say, 100 units of happiness or suffering at a time should count more than an animal who can experience, say, 10 units of happiness or suffering at a time. To be clear, this is not to say that we can, in fact, make such comparisons across species; as we will see, the idea that we can do so is controversial. Instead, it is only to say that difficult questions about well-being and moral status arise whether or not we can make such comparisons. These questions are partly empirical and partly normative, and so we will need to do both science and philosophy in order to answer them.

7.2. Weighing nonhuman lives

In order to know which policies to select, we need to estimate how each policy will impact everyone. This means estimating a wide range of impacts, including impacts on health and well-being. For example, suppose that we need to decide whether or not to close bars and restaurants in order to save lives during a pandemic. This requires estimating the many costs and benefits of closing these businesses, and then somehow comparing these expected impacts. Similarly, suppose that we need to decide which people to treat first during a pandemic. This requires estimating the many harms and benefits of different allocations of scarce medical resources, and then somehow comparing these expected impacts. How can we compare such a wide range of seemingly incomparable impacts on a common scale?

Policymakers use a variety of tools to accomplish these aims.[1] Consider two examples. First, policymakers use monetized cost-benefit analyses (CBAs) in many cases. On this approach, we can compare disparate impacts by using money as a common scale. For example, suppose that we say that a human life is worth about $10 million, in the sense that we are collectively willing to pay about this amount for each human life saved. Now suppose that we estimate that closing bars and restaurants during a pandemic will save about one million human lives. In this case, we can estimate that closing these businesses will save about $10 trillion (one million lives × $10 million per life), and we can ask whether the expected cost of closing these businesses outweighs this expected benefit, all else equal.[2]

Second, policymakers use quality-adjusted life-years (QALYs), or variations, in many cases. On this approach, we can compare disparate impacts by using health outcomes as a common scale. For example, suppose that we take a year of life with perfect health to be worth one QALY, a year of life with 80% health to be worth 0.8 QALYs, and so on. Now suppose that, if we treat a particular group of humans first during a pandemic, then one million humans will live 20 more years with 80% health on average. And if we do not, then they will live 10 more years with 60% health on average. In this case, we can estimate that treating these humans first will add 10 million QALYs to the world [one million lives × (20 × 0.8 – 10 × 0.6 QALYs per life)], and we can ask how this option compares with others.[3]

While these (and other) methods of estimating impacts are different in many ways, they are similar in that they both attempt to represent a variety of impacts numerically. However, many people object to this kind of project. Some people object in principle, since they object to the idea that we can reduce the value of a human life to a number on a scale. Other people object in practice, since they appreciate how much bias and ignorance can shape our estimates. For example, is there a risk that policymakers will make ageist or ableist assumptions about which lives are most worth saving? And is there a risk that quantified impact assessments will focus too much on consequentialist considerations (such as aggregate well-being) and not enough on nonconsequentialist considerations (such as rights and relationships)?[4]

How do proponents of these (and other) methods of constructing impact assessments reply to these objections? First, they tend to reject principled objections. When we represent the value of human lives numerically, we are not saying that the value of human lives is reducible to the value of numbers, but are rather saying that we can represent the value of human lives numerically for the sake of making policy decisions that necessarily involve trade-offs. Second, they tend to accept, and attempt to accommodate, practical objections. For example, insofar as we risk undervaluing particular lives, we can correct for this risk. Similarly, insofar as we risk neglecting nonconsequentialist considerations, we can make sure to include them either at the impact assessment stage or, at least, at the policy decision stage.[5]

In any case, my aim in this chapter (and the next) is not to argue for, or against, any particular method of constructing impact assessments. My aim is instead to examine how these (or other) methods might work in a multispecies context. Suppose that our impact assessments considered human and nonhuman health and well-being holistically. In this case, they would come much closer to revealing the true cost of human activity. For example, when we estimate the impacts of factory farming, deforestation, and the wildlife trade, we would include the harms that these practices cause to trillions of nonhuman animals per year, both directly and indirectly. Only when we appreciate the full scale of harm that these practices cause can we appreciate the moral importance of ending these practices as soon as possible.

At the same time, multispecies impact assessments are much harder to construct than single-species impact assessments. Not only do they require estimating our impacts on many more individuals, but they also require comparing these impacts across species, both empirically and normatively. For instance, consider some of the questions that we would have to ask if we used CBAs or QALYs in a multispecies context. When constructing CBAs, we would need to ask: If we take a human life to be worth $10 million, then how much money should we take, say, an elephant or ant life to be worth? Similarly, when constructing QALY estimates, we would need to ask: If we take a human life-year to be worth one QALY, then how many QALYs should we take, say, an elephant or ant life-year to be worth?

These questions, in turn, require us to confront some of the hardest questions in science and philosophy—questions concerning well-being, moral status, uncertainty, aggregation, and more. Not only do we have to determine how many animals there are and how human activity is impacting them (which, in a world with millions of species and quintillions of individual animals, is already hard). We also have to determine which animals count and how much they count, both individually and collectively. And we have to do all that in the context of radical uncertainty about what it might be like to be an elephant, an ant, or any other nonhuman animal. Examining these issues will reveal how complex and value-laden our impact assessments and policy decisions have always been, and will always be.[6]

7.3. Which animals count?

We can start by asking: Which animals count? That is, which animals do we have a moral duty to consider for their own sakes? Note that this is different from asking which animals we have a moral duty to consider for other purposes. For example, we might think that we should consider many animals, plants, species, and ecosystems for our sakes (since we take them to have aesthetic, cultural, economic, or ecological value), whether or not we consider them for their own sakes as well.[7] But I am asking which animals we should consider for their own sakes. As I discussed in Chapter 2, this is another way of asking which animals have the capacity for well-being[8] and moral status.[9] That is, which animals have the capacity for interests, such that we morally ought to consider their interests when deciding how to treat them?

As a reminder, I am assuming that sentience, in a particular sense of the term, is sufficient for well-being and moral status. That is, I am assuming that if you have the capacity for positive or negative experiences or motivations, then you also have interests, and I have a duty to consider your interests when deciding how to treat you. People accept this view for different reasons. Some accept it because they think that experiences are what matter (since, for instance, if you can suffer, then I have a duty not to cause you unnecessary suffering). Others accept it because they think that motivations are what matter (since, for

instance, if you can have desires, then I have a duty not to frustrate your desires unnecessarily). Either way, we can agree that sentience, understood as including both of these capacities, is enough.[10]

Of course, even if we agree that sentience, in this sense of the term, is *sufficient* for well-being and moral status, we might wonder whether sentience is *necessary*. Some people deny that sentience is necessary. For example, Kenneth Goodpaster argues that *life* is sufficient for well-being and moral status.[11] According to this view, if you have the capacity for biological flourishing, then you have interests, and I have a duty to consider your interests, whether or not you also have the capacity for positive or negative experiences or motivations. The possibility that nonsentient beings can have well-being or moral status adds an extra layer of complexity that I will not be able to address here. But we should keep this possibility in mind when we ask questions about the scope of the moral community.

In any case, if we accept that sentience, in this sense of the term, is sufficient for well-being and moral status, then we at least need to ask: Which animals are sentient? This is a difficult question to answer because of the problem of other minds. In particular, how can I know what your mind is like, or even whether you have a mind at all, given that the only mind that I can directly access is my own? Granted, I can make educated guesses about what your mind is like, since you and I are similar in many ways. But I have to leave at least some room for doubt, since you and I are different in many ways as well. This problem arises for humans and nonhumans alike, and it is part of why the task of determining which animals are sentient is so fraught. We will therefore need to approach this topic with caution and humility.[12]

With that said, we do know a lot about nonhuman cognition and behavior, and we are learning more with each passing year. So, as long as we are not radical skeptics about other minds in general—for instance, as long as we are willing to say that other humans are sentient, that pleasure feels good to them, that pain feels bad to them, and so on—then we can and should draw at least some conclusions about nonhumans as well. For instance, we can and should say with a high degree of confidence that many nonhuman animals are sentient, that pleasure feels good to them, that pain feels bad to them, and so on. In short, while we still have much to learn, we now know that the scope

of sentience and, thus, well-being and moral status, is likely to extend well beyond our own species. The only question is how far it likely extends.[13]

Consider vertebrates such as mammals, birds, reptiles, amphibians, and fishes. These animals are similar enough to humans that we can and should have a high degree of confidence that they count as sentient. For instance, these animals all have central nervous systems that allow for relatively centralized information processing and decision-making. Granted, there are differences that might be relevant, too. For instance, only mammals and some reptiles have cerebral cortices, and cerebral cortices might shape many of our experiences and motivations. But the probability that cerebral cortices are necessary for us to have experiences or motivations at all, given our evidence, is low. We should have a high degree of confidence that all vertebrates can have subjective experiences and motivations overall.[14]

Now consider invertebrates such as mollusks, arthropods, echinoderms, annelids, and poriferans. This category is harder to assess. Many invertebrates have complex nervous systems, but they also have less "centralized" nervous systems, and we have no idea what, if anything, it might feel like to be them. At one extreme, octopuses are highly complex, sensitive, and intelligent, and so we might be relatively confident that they count as sentient. At the other extreme, sponges are simple organisms with no neurons at all, and so we might be relatively confident that they count as nonsentient. For the many animals in between, including quintillions of insects, the evidence is mixed. Plausibly, we should not have much confidence about many of these animals one way or the other right now.[15]

While we are focusing on animals here, it is worth noting that these questions can arise for other kinds of beings as well, such as plants, artificial intelligences, and sets of individuals such as insect colonies. Like invertebrates, these beings can all have a high degree of cognitive and behavioral complexity, and they tend to collect and process information in a highly distributed manner.[16] We will not be able to consider any of these beings here. But we eventually need to consider them as well. In the Anthropocene, human activity will impact a very wide range of beings who at least *might* be sentient, given our evidence. In each case, we will need to ask whether these beings count, how much

they count, and in what ways they count without knowing for sure what, if anything, it might be like to be them.

7.4. How much do they count?

We next have to ask: How much do particular animals count? That is, how much weight should we assign to particular animals for their own sakes when deciding what to do? Note that this is different from asking how much weight we should assign to particular animals for other purposes. For example, we might think that we should "amplify" the expected value of some animals in some contexts, since protecting them is both intrinsically and instrumentally good. We might also think that we should "discount" the expected value of some animals in some contexts, since protecting them might be intrinsically good but instrumentally (say, economically or ecologically) bad. But I am currently asking how much weight we should assign to particular animals for their own sakes, prior to considering any of these other factors.

Some people accept egalitarian views about how much particular animals count. On an egalitarian view, all sentient beings count equally, all else equal. One might accept an egalitarian view because one believes that all animals have equal capacities for well-being (or, alternatively, that it makes no sense to compare capacities for well-being across species in the first place).[17] One might also accept an egalitarian view because one believes that all animals count equally *whether or not* we have equal capacities for well-being (or whether or not it makes sense to compare capacities for well-being across species). Either way, according to this view, we should assign equal weight to, say, individual elephants and ants—assuming that we should assign any weight to them at all—when deciding what to do, all else equal.

Other people accept hierarchical views about how much particular animals count. On a hierarchical view, some sentient beings count more than others, all else equal. One might accept a hierarchical view because one believes that some animals have a higher capacity for well-being than others (that is, a higher capacity for happiness, suffering, or other such states). One might also accept a hierarchical view because one believes that some animals count more than others *whether*

or not they have a higher capacity for well-being (that is, that each unit of their happiness, suffering, or other such states is more intrinsically morally valuable).[18] Either way, according to this view, we should assign greater weight to, say, individual elephants than to individual ants when deciding what to do, all else equal.

Many of us find egalitarian views plausible when we think about our own species. It seems clear that all humans count equally, not only because all humans have equal capacities for well-being (at least roughly and generally), but also because all humans count equally *whether or not* we have equal capacities for well-being. To say otherwise would be ableist, ageist, or otherwise harmful and oppressive. However, many of us find hierarchical views plausible when we think about other species. It seems clear that, say, an individual elephant should count more than an individual mouse, that an individual mouse should count more than an individual ant, and so on. To say otherwise would be to deny clearly morally relevant differences between these animals. How, if at all, can we reconcile these views in a principled manner?

A further problem is that even if we can answer this question, we might still face difficult questions about how much weight to assign to particular animals in practice, assuming that we accept anything other than full egalitarianism. Suppose that we decide that how much an animal counts depends in part on how much positive or negative well-being they can have. In that case, how can we estimate how much positive or negative well-being particular animals can have? For instance, if we think that well-being is a matter of happiness and suffering, then how, if at all, can we estimate how happy or miserable particular animals can be? Alternatively, if we think that well-being is a matter of desire-satisfaction or desire-frustration, then how, if at all, can we estimate how satisfied or frustrated particular animals can be?[19]

Given the problem of other minds, we might not be able to measure all of these features of animal minds directly. For instance, there is no test that can tell us what, if anything, it feels like to be a lobster being boiled alive. Instead, and at most, we can measure some of these features of animal minds only indirectly and imperfectly, by identifying a measurable proxy for these features and then measuring that proxy. For example, if we think that well-being is a matter of happiness and suffering and that happiness and suffering are a matter of neuronal

activity, then we might think that how many neurons you have can serve as a proxy for how happy or miserable you can be and, so, how much well-being you can have. In this case, we might think that we can treat your neuron count as a rough proxy for your capacity for well-being.

Of course, this is only a simple example. Any proxy that we select will likely need to be much more sophisticated than simple neuron counts in practice, either because our conception of well-being is more sophisticated, because our conception of the physical basis of well-being is more sophisticated, or both. We also need to consider the possibility that the physical basis for well-being in some animals is different than the physical basis for well-being in other animals. For instance, is it possible that vertebrates and invertebrates evolved different systems for producing happiness and suffering? The challenge, then, is to identify proxies for well-being that can be simple and general enough to be useful in practice, while also being complex and sophisticated enough to be reliable for many species in practice.

Since any method of assessment will likely be highly imperfect in these respects, the question that we face is which method of assessment is least imperfect in these respects overall. At present we have no good way of comparing impacts across species at all, and so we either neglect animals entirely or consult our intuitions about how much they count. And of course, our intuitions are likely to be highly unreliable in this context, since our intuitions are sensitive to many irrelevant factors, such as whether or not we benefit from exploiting and exterminating particular animals.[20] So unless and until we implement full egalitarianism, we will need to develop methods of assessment that can at least improve on our intuitions, while keeping in mind that bias and ignorance will likely shape and limit this work as well.

7.5. Uncertainty

This uncertainty raises an important question: How can we responsibly estimate which animals count, and how much they count, given the reality of human bias and ignorance? As we have seen, due to the problem of other minds, we might not be able to know for sure

whether particular animals count at all, to say nothing of knowing for sure how much they count. Instead, and at most, we might only be able to have particular degrees of confidence that particular animals count by particular amounts. The question of how much weight to assign animals is thus not only about how much well-being and moral status particular animals have, but also about how to treat animals in cases of uncertainty about these matters. In order to answer this question, we need to think about this issue on the model of the ethics of risk and uncertainty.[21]

In general, when we need to make decisions in cases involving risk and uncertainty, we have two main options. First, we can use a precautionary principle. According to this principle, if we are not sure whether a particular action will cause harm, we should proceed on the assumption that it will. If we apply a precautionary principle in this context, then we might hold that if we are not sure whether a particular animal is sentient (and, thus, that our actions can harm them), then we should proceed on the assumption that this animal is sentient (and, thus, that our actions can harm them). Thus, for instance, if we think that there is a 20% chance that someone can experience 20 units of suffering at any given time, then we should proceed on the assumption that they can, indeed, experience 20 units of suffering at any given time.

Second, we can use an expected value principle. According to this principle, if we are not sure whether a particular action will cause harm, we should multiply the probability that it will cause harm by the amount of harm that it would cause, and we should treat the product of that equation as the amount of harm that it will cause for practical purposes. If we apply an expected value principle in this context, then we might hold that if we are not sure whether a particular animal is sentient, then we should multiply the probability that they are by how much they could suffer if they were. Thus, for instance, if we think that there is a 20% chance that someone can experience 20 units of suffering at any given time, then we should proceed on the assumption that they can experience four (20% × 20) units of suffering at any given time.

In general, precautionary principles tend to be better in cases where one option is clearly less risky or where we lack the time, information, and rationality necessary to investigate the matter further. And

expected value principles tend to be better otherwise. Which kind of situation are we in with respect to the problem of other minds? This is a difficult question to answer. In many cases we might think that all options carry at least some risks, since both "false positives" (that is, accidentally treating nonsentient beings as sentient) and "false negatives" (that is, accidentally doing the reverse) can be costly or harmful. Additionally, in many cases we might think that we know enough to rank animals ordinally (that is, by saying *whether* they count more or less) but not cardinally (that is, by saying *how much* they count more or less).[22]

There are many further questions that we need to ask in this context as well. For instance, how risk tolerant or risk averse should we be? Suppose that we think that there is a non-zero probability that *all* living beings, including plants, are sentient. Granted, we might think that the probability that plants are sentient is very low. But we might also think that, given the problem of other minds, it would be a mistake to rule out the possibility entirely. How should we apply these principles of risk and uncertainty in such cases? Should we apply them in a risk-tolerant way, such that we can safely exclude particular beings if the probability of sentience is sufficiently low (say, >0.000001%)? Or should we apply these principles in a risk-averse way, such that we must assign at least some weight to these beings?[23]

Without being able to answer these questions here, I will make a few observations about them. First, whether false positives are riskier than false negatives is likely to be a contextual matter. In general, the risk of false negatives is that we might accidentally treat sentient beings as nonsentient, whereas the risk of false positives is that we might accidentally treat nonsentient beings as sentient. While false negatives are *always* risky, false positives are risky only in cases where they might harm sentient beings indirectly. For example, in a world where we can treat all living beings well at the same time, false positives would be harmless. But in a world where we have to make difficult decisions about priorities, false positives risk harming sentient beings by leading us to deprioritize them unnecessarily.

Second, whether we have enough time, information, or rationality to apply an expected value principle is likely to be a contextual matter as well. In some cases we might be able to do this, either because the

question that we need to answer is simple or because we have a lot of resources available for answering it. In other cases we might not be able to do this, for the opposite reasons. And in still other cases the truth might be somewhere in the middle, and so we might need to strike a balance between precautionary and expected value reasoning. For example, suppose we think that there is a 20–40% chance that someone can experience 20–40 units of suffering. In this case, we might decide to apply an expected value principle in a precautionary spirit, by multiplying the numbers at the tops of these ranges.

With that said, even though much is uncertain (including how to resolve our uncertainty!), I think that we can say this much with confidence. Given the evidence, we should hold that all vertebrates and many invertebrates, such as octopuses, have a very good chance of being sentient, and that many other invertebrates, such as ants, have at least a *non-negligible* chance (that is, at least a 1% chance) of being sentient.[24] And on any reasonable interpretation of *both* the precautionary principle *and* the expected value principle, if someone has a non-negligible chance of counting, then we should proceed on the assumption that they count at least *somewhat*. Thus, I believe that we should proceed on the assumption that all vertebrates and many invertebrates, including insects such as ants, count at least somewhat.

7.6. Aggregation

Another, related question that we need to ask is: Can we aggregate well-being—that is, can we add and subtract benefits and harms—within and across species? For instance, suppose that either one elephant will experience 100 units of suffering or 100 elephants will experience 99 units each. Which is worse? If we can aggregate harms, then we might say that the latter outcome (990 units of suffering) is worse, all else equal. If not, then a lot depends on how else we might compare these outcomes. Similarly, suppose that either one elephant will experience 100 units of suffering or one million ants will experience 0.00099 units each. Which is worse? Again, if we can aggregate harms, then we might say that the latter outcome (990 units of suffering) is worse, all else equal. If not, then, again, a lot depends on what we do instead.[25]

We might think that aggregation is always possible, at least in principle. Every state of affairs benefits or harms every individual by a given amount. As long as we know what this amount is, we can add all the benefits and subtract all the harms in order to determine the net effects for any particular population. Granted, aggregation might not always be possible in practice, since we might not always have enough information to aggregate reliably. And even when aggregation is possible, it might not always be ethical, since other factors can be morally relevant, too. Still, it remains true that, for any elephant injury, there is, say, some number of ant injuries that can be worse overall, in expectation. And if we had enough information about elephants and ants, then we would be able to discover what that number is.

Alternatively, we might deny that aggregation is always possible. On a nonaggregation view, aggregation is never possible. There is no number of minor elephant injuries that can be worse, overall, than a single major elephant injury, and there is no number of ant injuries that can be worse, overall, than a single elephant injury. On a mixed view, aggregation is sometimes possible. For example, maybe aggregation is possible for animals with relatively similar nervous systems, since impacts within this category are similar enough to be comparable. But maybe aggregation is impossible beyond that, since impacts beyond that are not similar enough to be comparable. This kind of view can allow for more or less aggregation in practice, depending on where we draw the line between comparable and incomparable impacts.

Suppose that we accept nonaggregation. How might we compare outcomes at the population level in this case? There are many options. One option is to compare impacts individually rather than in the aggregate. In this case, we might say that, if a single major injury is worse than a single minor injury, then it is also worse than any number of minor injuries. In this case, we might think that we should prevent the major injury, all else equal. Another option is to deny that these outcomes are comparable at all. An outcome involving a major injury is neither better than, worse than, nor equal to an outcome involving some number of minor injuries. In this case, we might think that we should decide what to do on independent grounds, for instance by considering other relevant factors or simply flipping a coin.

Now suppose that we accept a mixed view. How might we compare outcomes at the population level in this case? One option is that we can take an aggregation approach, all else equal, within the relevant taxonomic categories and take a nonaggregation approach, all else equal, across them. For example, suppose that we divide the tree of life into: animals with 1×10^{11} neurons or more, animals with 1×10^{10} neurons or more, and so on. In that case, we might promote aggregate welfare within each category, and we might then establish priority across categories, for instance by saying that any amount of harm for animals with 1×10^{11} neurons or more is worse, overall, than any amount of harm for animals with 1×10^{10} neurons or more. Or we might deny that comparisons across these categories are possible at all.

It is worth emphasizing that every view about this issue has at least some implausible implications. For instance, aggregation implies that there is some number of ant injuries that can be worse, overall, than a single elephant injury, all else equal. And nonaggregation implies that there is no number of minor elephant injuries that can be worse, overall, than a single major elephant injury, all else equal. Meanwhile, mixed views imply that we can aggregate impacts within particular categories but not across them, even though there can be a lot of variation within categories and a lot of similarity across them. We might find all of these conclusions at least somewhat implausible. Thus, the question is not which view is fully plausible, but rather which view is most plausible (or, perhaps, least implausible) all things considered.

As with questions about well-being and moral status, we should be cautious about how we assess these issues, since our intuitions about aggregation might be misleading. For instance, our intuition that no number of ant injuries can be worse, overall, than a single elephant injury, all else equal, might be due at least in part to self-interest, speciesism, the availability heuristic, scope insensitivity, and other such biases and heuristics. This intuition might also be due at least in part to considerations that are compatible with the possibility of aggregation, such as the idea that, even if aggregation is always possible in principle, it might not always be possible or ethical in practice. So, insofar as our intuitions about aggregation are shaped by such considerations, we should discount them when deciding what to accept.

This debate about aggregation has high stakes for everyone involved. After all, the planet contains relatively few animals with large brains and long lifespans and relatively many (that is, many orders of magnitude more) animals with small brains and short lifespans. As a result, insofar as we accept aggregation or anything like it, we might find that we need to prioritize the needs of the latter animals in many cases in practice, all else equal (according to egalitarian as well as hierarchical views). And insofar as we reject aggregation and everything like it, we might find that we need to do the reverse. As we will see in a moment, other moral and practical factors will complicate this analysis substantially. But given the nature and number of animals in the world, our view about aggregation will matter a lot.

7.7. Other factors

Finally, for now: What other moral and practical factors are relevant to our impact assessments and policy decisions? Whether or not we can aggregate well-being in principle or in practice, we need to consider many other issues as well. For instance, we might need to consider moral factors such as rights and relationships, and we might need to consider practical factors such as futility and demandingness. As we discussed in Chapter 2, a consequentialist might consider these factors for instrumental reasons, since, they might think, we can maximize well-being more effectively if we consider these factors. Meanwhile, a nonconsequentialist might consider these factors for intrinsic reasons, since, they might think, these factors have intrinsic moral value. Either way, we have good reason to consider such factors in practice.

Consider some examples of moral factors that we might take to be relevant, starting with the value of outcomes. When we estimate the value of outcomes, we might think that we should consider not only the *amount* but also the *distribution* of positive and negative well-being in each outcome. For instance, we might think that an outcome in which benefits and harms are distributed relatively equally is better than an outcome in which they are distributed relatively unequally, all else equal. We might also, and relatedly, think that an outcome in which benefits are distributed to the worst-off among us and harms are

distributed to the best-off among us is better than an outcome in which the reverse happens, all else equal. We will consider whether and how these distributions might matter more in the next chapter.

Additionally, when we estimate the rightness of actions, we might think that we should consider more than the value of outcomes. For instance, we might think that actions that reduce harms are better than actions that increase benefits, all else equal. We might think that actions that cause harm are worse than actions that merely allow harm, all else equal. We might think that actions that intentionally cause harm are worse than actions that merely foreseeably cause harm, all else equal. We might think that actions that promote negative perceptions of moral subjects are worse than actions that promote positive perceptions of moral subjects, all else equal. And we might think that actions that promote oppressive relationships are worse than actions that promote caring relationships, all else equal.

Similarly, consider some practical factors that might be relevant. First, consider futility. We need to know much more about well-being, moral status, populations, and global impacts before we can make reliable estimates about all these issues. For example, we not only need to estimate how much well-being and moral status nonhuman animals can have but also how many nonhuman animals there are and how human activity will affect them both directly and indirectly. Yet these questions are extremely hard to answer, since our human perspective is both limited and distorted. Indeed, when we combine our uncertainty about well-being and moral status with our uncertainty about other relevant moral and practical issues, we might discover that we face more than uncertainty in this context. We face cluelessness.

Second, and relatedly, consider demandingness. Suppose that the vast majority of the well-being in the world exists in nonhumans. As a result, suppose that if we distributed social benefits equitably, such that the distribution of social benefits matched the distribution of well-being in the world, then we would distribute the vast majority of social benefits to nonhumans. In this case, we might worry that the aspiration to distribute social benefits equitably is unachievable or unsustainable in practice, since it would involve too much neglect of basic human needs. Thus, we might think, in the same way that we need to prioritize self-care to a degree in order to be able to take care of others

sustainably, we might also need to prioritize "human care" to a degree in order to be able to take care of nonhumans sustainably.[26]

These factors might shape or limit our impact assessments or policy decisions substantially. The question is how. One option is that we can consider these factors *within* our impact assessments. On this approach, for instance, we might assign more weight to the well-being of the worst-off than to that of the best-off, we might assign more weight to impacts that we cause than to impacts that we allow, and so on.[27] Another option is that we can consider these factors *independently of* our impact assessments. On this approach, for instance, we might consider only expected impacts at the impact assessment stage, and then we might consider other factors at the decision-making stage. Either way can work in principle. What matters is that we consider all relevant factors holistically at one point or another.

We might think that we have a moral right, if not a moral duty, to prioritize humans over nonhumans in light of these additional factors. Consider an analogy. Some people think that we should prioritize members of our own nation and generation. The reason is *not* that these individuals have more at stake than everyone else, but rather that we have special obligations to these individuals, and that full egalitarianism across nations and generations is impossible in practice. In the same kind of way, we might think that we should assign extra weight to members of our own species. In this case, the reason would once again *not* be that humans have more at stake than nonhumans, but would rather be that we have special obligations to fellow humans, or that full egalitarianism across species is impossible in practice.[28]

However, we need to be careful here. First, while we might have special obligations within our own nation, generation, and species, we might also have special obligations across these categories, including a special obligation to reduce and repair the harms that we are causing across them. Second, while we might not be able to, say, distribute social benefits fully equitably across these categories, we might still be able to distribute social benefits more equitably than we are. Thus, we should question whether we really do have a right to prioritize members of our own nation, generation, and species in many cases in practice. And, even if we decide that we do, we should also question

whether we have a right to do so nearly as much as we currently do. I think that the answer to this latter question is clearly no.

7.8. Moral priorities

For reasons that should by now be clear, how we answer the questions discussed in this chapter will substantially determine whether or not we help particular animals. Generally speaking, the more egalitarian our views are, the more we will aim to help all animals equally, independently of species membership, all else equal. However, the more hierarchical our views are, the more we will aim to help some animals more than others, for instance by aiming to help animals with large brains more than animals with small brains, all else equal. To see how this might work in practice, we can consider how our use of CBAs and QALYs might vary, depending on our views about well-being, moral status, uncertainty, aggregation, and the other moral and practical factors discussed in this chapter.

We can start by contrasting a simple egalitarian view with a simple hierarchical view. On one hand, suppose that we accept a simple egalitarian view. We think that all sentient beings count equally, that we should use a precautionary principle to resolve uncertainty about sentience, and that humans and ants both have a non-negligible chance of being sentient. In this case, we would hold that individual humans and individual ants count equally, all else equal. We would still have to ask many further questions, for example, about what might be achievable and sustainable, in order to determine how much individual humans and ants should count in particular cases all things considered. But as a starting point, we would say that anyone with a non-negligible chance of counting at all should count equally.

On the other hand, suppose that we accept a simple hierarchical view. We think that some sentient beings count more than others, that how much a sentient being counts is a matter of how many neurons they have, and that individual humans have about 400,000 times more neurons than individual ants. Suppose further that we think that we should use an expected value principle to resolve uncertainty about sentience, and that we think that humans are about 100% likely to be

sentient and that ants are about 40% likely to be sentient, given our evidence. In this case, our view would imply that individual humans count about one million times more than individual ants, all else equal. Once again, we would still have to ask many further questions as well, but we could use this estimate as a starting point.

How might these estimates shape our use of CBAs? In the human case, we currently assume that the value of a statistical life is about $10 million, since surveys reveal that humans value our own lives at about this amount. We then compare policy options in part by asking how many lives each policy would save and, thus, how much money each policy would save, all else equal. Supposing that we want to continue to use this method in a multispecies context (which we might or might not want to do), how can we extend it to other animals? There are several dimensions to this question, but we can focus on one here.[29] Should we assume that the lives of all animals are worth the same amount for the purpose of making these estimates, or should we rather assume that the lives of some animals are worth more than the lives of others?

The answer to this question will depend in part on our views about well-being and moral status. For instance, on the simple egalitarian view described previously, if we hold that a human life is worth $10 million, and if we hold that all animals count equally, then we should hold that an individual ant life is worth $10 million as well (!), all else equal. In contrast, on the simple hierarchical view described previously, if we hold that an individual human life is worth $10 million, and if we hold that a human counts one million times more than an ant, then we should hold that an individual ant life is worth $10, all else equal. Either way, we can use the estimated value of a statistical ant life as a starting point, and we can then ask all the other moral and practical questions that we need to ask in order to arrive at a final estimate.

Now consider QALYs. In the human case, we assume that a year of life at perfect health is worth one QALY, that a year of life at 80% health is worth 0.8 QALYs, and so on. We then compare policy options in part by asking how much each option would improve or extend lives, and, thus, how many QALYs it would add to the world. Supposing that want to continue to use this method in a multispecies context (which, again, we might or might not want to do), how can we extend it to

other animals? As before, we can focus on one aspect of this question here.[30] How much value should we assign to the life-years of other animals? Should we assume that the life-years of all animals are worth the same amount, or should we rather assume that the life-years of some animals are worth more than the life-years of others?

As before, the answer to this question will depend in part on our views about well-being and moral status. For instance, on the simple egalitarian view described previously, if we hold that a perfect human life-year is worth one QALY, and if we hold that all sentient beings count equally, then we should hold that a perfect ant life-year is worth one QALY as well, all else equal. In contrast, on the simple hierarchical view described previously, if we hold that a perfect human life-year is worth one QALY, and if we hold that a human counts one million more times than an ant, then we might hold that a perfect ant life-year is worth 0.000001 QALYs, all else equal. Either way, we can once again use this estimate as a starting point and then ask all the other moral and practical questions that we need to ask in order to arrive at a final estimate.

I want to emphasize that these examples are intentionally simplistic. We might think that other, more complex views about well-being and moral status are better than these simple views. We might also think that our estimates will change substantially once we consider other moral and practical factors in our priority setting. Finally, we might think that we should either revise or replace CBAs or QALYs as the methods that we use to compare policy options in particular contexts. So this discussion is not meant to illustrate how we should actually set priorities in a multispecies context, but is rather meant to illustrate how complex and value laden this project will need to be, *even if* we accept relatively simple views about well-being and moral status and relatively traditional views about priority setting.

7.9. Moral conflicts

Similarly, how we answer the questions discussed in this chapter might substantially determine whether or not we harm particular animals. Generally speaking, the more egalitarian our views are, the more we

will aim to avoid harming all animals equally, independently of species membership. However, the more hierarchical our views are, the more we will aim to avoid harming some animals more than others, for instance by aiming to avoid harming animals with large brains more than animals with small brains, all else equal. To see how this might work in practice, consider the question whether to harm or kill a smaller number of animals in order to help or save a larger number of animals. (These questions can be framed in terms of CBAs or QALYs as well, but we can skip that step here for the sake of simplicity.)

According to the moral framework that I have developed in this book, we are morally required not to harm or kill animals unnecessarily. But we can be morally permitted, if not morally required, to harm or kill animals in particular situations, such as when we need to do so in order to defend ourselves, in order to defend others, or, if we accept a harm threshold, in order to prevent sufficiently many other animals from suffering or dying. Suppose that we do, in fact, accept a harm threshold. In particular, suppose that we think that we are morally permitted to harm or kill one human if we need to do so in order to benefit or save, say, 1,000, all else equal. (Of course, we might accept a much higher or lower harm threshold than this, but this will work as an example.) How can we apply this view across species?

The answer to this question will once again depend on our views about well-being and moral status. On one hand, if we accept the simple egalitarian view described previously, then we might hold that we should use this 1:1,000 ratio for all animals. For instance, if the only way to save 999 ants is to kill one human, then you should not kill the human, all else equal. But if the only way to save 1,001 ants is to kill one human, then you should kill the human, all else equal. Similarly, if the only way to save 999 humans is to kill one ant, then you should not kill the ant, all else equal. But if the only way to save 1,001 humans is to kill one ant, then you should kill the ant, all else equal. As with our decisions about priority setting, this view would have radically revisionary implications about our duties to other animals.

On the other hand, if we accept the simple hierarchical view described previously, then we might hold that we should use different ratios for different pairs of animals. For instance, if we accept that an individual human counts one million times more than an individual ant,

then we might reason as follows. If the only way to save 999,999,999 ants is to kill one human, then you should not kill the human, all else equal. But if the only way to save 1,000,000,001 ants is to kill one human, then you should kill the human, all else equal. Similarly, if the only way to save 999 humans is to kill 1,000,000 ants, then you should not kill the ants, all else equal. But if the only way to save 1,001 humans is to kill 1,000,000 ants, then you should kill the ants, all else equal. This is, of course, revisionary as well, even if not as much as the egalitarian view.

Throughout this book, we have considered a wide range of conflicts within and across species, and we have noted that some of these conflicts are easier to resolve than others. We can now see why some of these conflicts are so hard to resolve, and why resolving them thoughtfully requires facing hard questions in science and philosophy. For example, when, if ever, are we morally permitted to harm and kill animals for food, research, or medicine? When, if ever, are we morally permitted to harm and kill animals to prevent the spread of disease, prevent suffering associated with predation, or prevent suffering associated with starvation? Answering these questions requires not only determining whether and when we are permitted to harm or kill others in general, but also how, if at all, the details might vary across species.

As I have emphasized throughout this chapter, these questions are not only difficult but dangerous, since they require us to evaluate nonhuman lives from human perspectives. This is a deeply troubling situation, given how much bias and ignorance we have. But as I have emphasized throughout this book, we have no choice but to answer these questions as best we can. Human activity is impacting countless individuals across species, nations, and generations, and we have a moral duty to address the problems that our activity is creating. Granted, insofar as we make some of the changes discussed in this book, we can prevent many problems from arising in the first place. But insofar as problems remain, we need to consider the stakes for everyone involved holistically before we can make an informed decision.

While I would need to say much more in order to draw any particular conclusion about which animals count and how much they count, I can close here with two general thoughts. First, I believe that any reasonable view about which animals count and how much they count

will imply that *many* animals count *a lot*. For instance, while hierarchical views might favor humans over (many) nonhumans in local, individual conflicts, they might still favor nonhumans over humans in global, collective conflicts, given how many more nonhumans than humans there are in the world. For these reasons, I believe that when the dust settles, we will find that we have a moral duty to help nonhuman animals as much as we possibly can in the Anthropocene. The limits of our duty to help will be practical, not moral.

Second, I believe that any reasonable view about which animals count and how much they count will imply that we are permitted to harm and kill many animals in practice. However, it will also imply that we are permitted to do so in a very different way than we currently do. In particular, it will imply that we can permissibly harm and kill nonhumans for the sake of humans much less than we currently do. But it might (or might not) also imply that we can permissibly harm and kill nonhumans for the sake of nonhumans much more than we currently do, depending on the details of our view. Either way, for these reasons, I believe that when the dust settles, we will find that tragic choices are tragically common—but not in a way that warrants anything like current systems of nonhuman exploitation or extermination.

7.10. Conclusion

Impact assessments and policy decisions are not, and cannot be, value neutral. Instead, they depend heavily on our answers to a wide range of ethical questions. For instance, if we think that all animals have equal capacities for well-being, that all animals have equal moral status, and that we should use the precautionary principle to resolve uncertainty about these matters, then we might count all animals equally. However, if we think that some animals have a higher capacity for well-being than others, that some animals have a higher moral status than others, and that we should use an expected value principle to resolve uncertainty about these matters, then we might count some animals much more than others. And if we mix and match these views, then we might end up somewhere in the middle.

How we evaluate global changes such as pandemics, climate change, and our attempts to address them will depend on these issues as well. For instance, if we accept a relatively egalitarian view, then we will need to assign more weight to our impacts on insects when assessing these global changes, all else equal. However, if we accept a relatively hierarchical view, then we will need to assign less weight to our impacts on insects when assessing these global changes, all else equal. With that said, we should keep in mind that since there are quintillions of insects in the world, and since insects have a non-negligible chance of being sentient, given our evidence, we will likely need to assign a lot of weight to our impacts on insects either way, assuming that we accept aggregation or anything like it.

It is important to emphasize that the issues that we considered in this chapter will arise no matter how we construct multispecies impact assessments. I focused for the sake of simplicity on two standard methods for comparing disparate impacts, namely, CBAs and QALYs. But I also noted that we might need to revise these methods—for instance, by revising the estimated value of particular lives or health conditions—or even replace them—for instance, with social welfare functions or other such methods. Either way, whether we preserve, revise, or replace any particular method for estimating impacts, we will still have to determine which animals count and how much they count, and we will still have to confront the kinds of issues discussed here as part of that process.

In the next chapter, I will survey additional questions that arise when we consider our impacts on future nonhuman populations. And I will argue for an inconvenient conclusion. Reducing and repairing human-caused harms to future nonhuman populations is not only incredibly important but also incredibly complex. We should consider our impacts on these populations when deciding what to do, but we also have no idea at present which global changes would be good or bad for them. This inconvenient conclusion will reinforce the idea that, while my policy proposals in this book will help many humans and nonhumans in the short term, they are important primarily because they will help us build knowledge, power, and political will toward helping humans and nonhumans more ethically and effectively in the long run.

8

Animals, creation ethics, and population ethics

8.1. Introduction

When we estimate the impacts of human activity on nonhumans, we need to estimate not only *how much* but also *how* human activities will impact nonhumans. Which animals will do better and worse as a result of our activity, and which animals will do well and badly overall? Additionally, we need to estimate how human activities will impact not only current but also future nonhumans. Which populations will expand and contract as a result of our activity, how many animals will have better and worse lives as a result, and how many animals will have good and bad lives as a result? We then need to ask how to morally evaluate these impacts, in part by asking which features of populations are good and bad, and in part by asking what follows for our moral duties to current and future generations of humans and nonhumans.

As with the questions that we discussed in the last chapter, these questions are not only difficult but dangerous, because of how little we know and how much bias and ignorance we can have about the nature and value of other lives. At the same time, these questions are unavoidable. We need to make informed estimates about what makes life go better, worse, well, or badly for animals in order to be able to decide how to treat them at the population level. Once again, the only alternatives are to either exclude animals entirely or rely on our intuitions about whether our policies are good or bad for them at the population level. As with the issues that we discussed in the last chapter, I believe that making informed estimates about these issues in a thoughtful, precautionary manner is better than either of these alternatives.

My aim in this chapter is to consider some questions that bear on nonhuman creation ethics and population ethics. What makes

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life go better, worse, well, or badly for nonhuman animals? What are the ethics of creating better, worse, good, and bad lives? How much should total well-being and average well-being matter? Are we capable of helping or harming future animals? Should we prioritize harming animals less over helping them more? And what follows for advocacy and policy? As before, I will argue that different sets of answers can lead to radically different sets of priorities. However, I will also suggest that, on any reasonable set of answers, many current and future animals count as having good and bad lives, and many current and future animals merit moral and political consideration.

As always, my discussion in this chapter will be selective and general. And as in the last chapter, my discussion will also be simple and abstract. In particular, I will once again sometimes discuss well-being in simple, mathematical terms, for instance by comparing a small population of animals who can each experience a large amount of happiness and suffering at a time with a large population of animals who can each experience a small amount of happiness and suffering at a time. Again, this is not to say that we can, in fact, make such comparisons across species. Instead, it is only to say that difficult questions about creation ethics and population ethics arise whether or not we can make such comparisons, and we will need to do both science and philosophy in order to answer these questions.

8.2. Evaluating nonhuman lives

In order to know which policies to select, we need to estimate not only which animals count and how much they count but also whether our policies will be good or bad for them. This partly requires thinking about the nature of nonhuman well-being. For example, many people think that our lives go better for us the more happiness, stimulation, and social connection they contain, and that our lives go worse for us the more suffering, deprivation, and social isolation they contain. Many people also believe that, if our lives are sufficiently positive in these ways, then they are worth living, or, in other words, better for us than nonexistence. And, if our lives are sufficiently negative in these

ways, then they are not. But should we accept such views? And if so, how, if at all, can we apply them to nonhumans?

Examining this topic also requires thinking about nonhuman population ethics. That is, it requires thinking about what we owe to nonhuman animals at the population level. For instance, suppose that one policy option would increase the total amount of happiness in a population, but another policy would increase the average amount of happiness in that population. Alternatively, suppose that one policy would increase the total and average amounts of happiness in a population, but another policy would increase the total and average amounts of happiness for the worst-off members of that population. In these cases, which policy option is best, all else equal? Moreover, how should we interpret ideas such as "total happiness," "average happiness," and "the worst-off members of a population" in a multispecies context?

Finally, examining this topic also requires thinking about nonhuman creation ethics. That is, it requires thinking about the ethics of causing or allowing animals to come into existence, as well as the ethics of *not* causing or allowing them to come into existence. For instance, do we benefit animals with good lives by bringing them into existence? Do we harm animals with bad lives by bringing them into existence? If the answer to both questions is yes, is it equally important to create more animals with good lives and to create fewer animals with bad lives, or is it more important to, say, create fewer animals with bad lives than to create more animals with good lives? And if we have no idea whether future animals will have good or bad lives, then should we err on the side of creating them or not creating them?

Our answers to these theoretical questions will shape our answers to many of the practical questions that we have discussed in this book. As we have seen, human activities are impacting not only current nonhuman populations but also future nonhuman populations, by shaping which animals can come into existence and how good or bad their lives can be. For instance, agriculture, deforestation, and other such practices are causing insect populations to decline. But these practices are also contributing to climate change, which might cause insect populations to expand. This raises the question: Will a world reshaped by human activity have more or fewer insects overall? And

either way, will that be good or bad for the insects (as well as the many other animals) who might or might not come into existence?

As with the topics that we discussed in the last chapter, discussions about these topics are fraught for many reasons. For example, consider how a bias in favor of human lives and a bias in favor of "natural" lives can shape and limit our thinking about these topics. Insofar as we evaluate nonhuman lives by thinking about what humans need to live well, we risk evaluating some nonhuman lives as better or worse than they really are, since many features of life can be good for humans without being good for nonhumans, and vice versa. Similarly, insofar as we evaluate nonhuman lives by thinking about how "natural" they are, we risk evaluating some nonhuman lives as better or worse than they really are, since many features of life can be "natural" without being good for their subjects, and vice versa.[1]

Moreover, consider how context can shape and limit our thinking about these issues. As we have seen, it can be easy to think that if particular animals lack the potential for good lives in particular environments, then the problem is with the animals, and so we should either "enhance" these animals so that they can have the potential for good lives in these environments or "euthanize" them so that they will not have to endure bad lives in these environments. But of course, it might instead be that the problem is with the environments, and so we should improve these environments so that these animals (or other animals) can have the potential for good lives in them. This point is a reminder that, both within and across species, we need to think holistically and structurally in order to solve our problems ethically and effectively.[2]

Finally, consider other moral and practical factors. It can be easy to conflate the question whether animals have good or bad lives with the question whether our treatment of them is good or bad. For instance, if we support factory farming and deforestation, then we might be tempted to think that farmed animals have good lives and that wild animals have bad lives, since that makes it easier to justify our exploitation and extermination of these animals. In contrast, if we oppose these practices, then we might be tempted to accept the opposite views, for the opposite reasons. But while these issues are linked, they are not the same. As we saw in Chapter 2, we can think that factory farming

and deforestation are wrong even if we grant that some farmed animals have good lives and some wild animals have bad lives.

As we have seen, other biases can distort our thinking about these issues as well. For instance, the availability heuristic can lead us to privilege impacts on animals we regularly encounter, such as current animals, over impacts on animals we do not regularly encounter, such as future animals. And scope insensitivity can lead us to privilege impacts on smaller numbers of animals more than we should, and to privilege impacts on larger numbers of animals less than we should. Thinking about our biases can, and should, make us feel uncomfortable passing judgment on the value of other lives. But our decisions will impact current and future human and nonhuman populations whether we like it or not. We have a responsibility to evaluate these impacts thoughtfully so our decisions can be more informed.

8.3. What makes life worth living?

What makes life worth living for nonhuman animals? This question involves at least two others. The first is about the nature of well-being. What makes life go better or worse for nonhuman animals? That is, which features of life are good for particular animals, and which features of life are bad for particular animals? The second is about the nature of the good life.[3] How good does a life need to be in order for that life to be worth living at all? That is, how good does a life need to be in order for that life to be better for its subject than nonexistence? There are many different possible answers to these questions, and which ones we select might at least partly determine how we answer other questions, such as whether or not global changes that expand or contract nonhuman populations are good or bad for animals overall.

While people disagree about what makes life go better or worse for nonhuman animals, I will assume a standard view about this issue here for the sake of discussion. Martha Nussbaum argues, plausibly, that our interests and needs can vary across species. As a general matter, animals tend to have better lives to the degree that they have bodily health and integrity; positive sensory, cognitive, and emotional stimulation; freedom of choice, movement, and affiliation; and other such

features.[4] Beyond that, there can be substantial variation both within and, especially, across species. For example, some dogs seem to need more social interaction than others to be happy. More generally, social animals such as dogs seem to need more social interaction than solitary animals such as (many) octopuses to be happy.

This general view about nonhuman well-being is plausible and widely accepted. Granted, we can debate what makes the features of life that Nussbaum discusses good for animals. At one end of the spectrum, we might think that all of these features of life are intrinsically good for animals. At the other end of the spectrum, we might think that only one feature of life, such as happiness, desire-satisfaction, or biological flourishing, is intrinsically good for animals and that everything else is merely instrumentally good for animals to the degree that it contributes to this intrinsically good feature of life. There are other options between these extremes as well. But for our purposes here, it will be enough to assume that this general view about nonhuman well-being is correct, while leaving many of the details open.

In addition to asking what makes life go better or worse for nonhuman animals, we also need to ask what makes life good or bad—that is, worth living or not worth living—for nonhuman animals. A common answer to this question is that we should accept a "neutral baseline" for life to be worth living. That is, we should accept that a life with net positive well-being is worth living and that a life with net negative well-being is not worth living. On this view, for example, if we think that the only intrinsically good feature of life is happiness and that the only intrinsically bad feature of life is suffering, then we might think that a life with more happiness than suffering overall is worth living and that a life with more suffering than happiness overall is not worth living, for human and nonhuman animals alike.

With that said, we might also think that the baseline for life to be worth living should be lower or higher than this neutral baseline. That is, we might think that life can be bad for its subject even when it contains net positive well-being or good for its subject even when it contains net negative well-being. For instance, some people report that they would rather not live at all than have a life that contains, say, nine units of suffering for every ten units of happiness. Other people report

that they would rather have a life that contains, say, nine units of happiness for every ten units of suffering than not live at all. Insofar as people have these preferences, should we take these preferences as evidence that the baseline for life to be worth living is, in fact, lower or higher than this neutral baseline, for humans and nonhumans alike?[5]

Of course, we have to be careful about applying our views about what makes life worth living across species. For instance, it would be a mistake to ask whether a bat has a life worth living by asking if *we* would prefer their life to nonexistence, since it might be that their life is better or worse than nonexistence for a human but not for a bat. Similarly, it would be a mistake to ask whether a bat has a life worth living by asking if they have the features of life that *we* need, since it might be that particular features of life are more or less important for bats than for humans. But if we ask whether or not particular animals have lives worth living with sufficient care (about which more later), then our answers can serve as one input among many in our views about the ethics of causing or allowing these animals to live or die.

To see how this issue can matter, take our duties to current animals. A common view is that, if we have the power to determine whether or not an animal will survive, and if this animal will likely have a good future if they survive, then we likely benefit this animal by causing or allowing them to survive, and we likely harm them by causing or allowing them to die, all else equal. However, if this animal will likely have a bad future if they survive, then we likely harm this animal by causing or allowing them to survive, and we likely benefit them by causing or allowing them to die, all else equal. Insofar as we accept this kind of view about benefits and harms, our view about what makes a life worth continuing can inform (without determining) our view about the ethics of extending or shortening nonhuman lives.

Similarly, take our duties to future animals. A common view is that, if we have the power to determine whether or not an animal will exist, and if this an animal will likely have a good life if they exist, then we likely make the world better by bringing them into existence, and we likely make the world worse by not doing so, all else equal. However, if this animal will likely have a bad life if they exist, then we likely make the world worse by bringing them into existence, and we likely make the world better by not doing so, all else equal. There are complications

here that we will discuss later. But insofar as we accept this kind of view about benefits and harms, our view about what makes a life worth starting can inform (without determining) our view about the ethics of expanding or contracting nonhuman populations.[6]

8.4. Which animals have lives worth living?

Which animals have lives worth living? As we have seen, some animals have much better lives than others. For example, a captive animal who lives in a sanctuary will tend to have a much better life than a captive animal who lives in a factory farm. Similarly, a wild animal who wins the natural lottery and dies peacefully at the end of their natural life will tend to have a much better life than a wild animal who loses the natural lottery and dies of hunger, thirst, illness, or injury at the beginning of their natural life. But how can we tell when life is better, worse, good, or bad for animals in practice? The answer might partly determine whether we see a particular nonhuman population as benefiting from expansion or contraction, and, so, whether we see policies that would expand or contract that population as good or bad, all else equal.

Assessing how life is going for animals is easier at the individual level than at the population level. For example, I can tell how life is going for my dog by taking him to the vet, and by knowing him well enough to tell when he seems happy or sad. Of course, even when you know an animal as an individual, it can still be hard to tell when life is better, worse, good, or bad for them. For instance, I have a hard time telling whether living in the city or country is better for my dog, and if he were to become terminally ill, I would have a hard time, epistemically and emotionally, telling at what point nonexistence would be better than continued existence for him. But these challenges are nothing compared to the challenges that we face in assessing nonhuman well-being, particularly wild animal well-being, at the population level.

Nevertheless, researchers are developing tools to reduce our uncertainty about nonhuman well-being at the population level. For instance, Melissa Bateson and Colline Poirier suggest that we might be able to estimate nonhuman well-being at the population level in part by measuring nonhuman biological markers of aging at the population

level. Roughly speaking, whereas our chronological age depends on the length of our lives, our biological age depends on the state of our cells and organs, which, in turn, depends in part on how much stress we experience in life. Thus, if we find that particular animals tend to be biologically younger in one environment than in another, then we can infer that they tend to have less stressful lives—and, so, better lives—in the former environment than in the latter, all else equal.[7]

As Will Bradshaw notes, this approach has many strengths. It can provide us with a general, cumulative, measurable, and phylogenetically neutral proxy for well-being. Biological age is sensitive to a wide range of stressors. So, assuming that constant surveillance is out of the question, measuring biological age might be a good alternative. But Bradshaw notes that this approach has many limitations as well. For instance, it can be hard to measure biological age for many species, and it can also be hard to tell why animals have different biological ages in different environments, given how many variables are in play. Also, of course, biological age is not a perfect proxy for well-being, since many sources of happiness, such as exercise, might be stressful, whereas many sources of suffering, such as boredom, might not be.[8]

Some researchers also believe that we can estimate nonhuman well-being at the population level by considering population dynamics. For example, in 1995, Yew-Kwang Ng argued that nature contains more suffering than happiness overall. The main reason is that for each animal who survives to adulthood, there are many more who die early in life, since many species employ a reproductive strategy that involves having a very large number of babies, the vast majority of whom die before they reach sexual maturity.[9] We might not think much about the many small animals who suffer and die shortly after being born. But this suffering adds up, and Ng argued on both intuitive and mathematical grounds that this suffering swamps any amount of happiness that animals who win the genetic lottery might experience.

This kind of reasoning has many benefits. Considering these population dynamics reminds us how much hidden suffering there is in the world, and how many bad lives are a necessary condition for each good life. But this kind of reasoning has many costs as well, since intuitive arguments are only as good as our intuitions, and mathematical arguments are only as good as our math. For example, the 1995 paper

persuaded many people that suffering dominates happiness in the wild. But in 2019, Zach Groff and Yew-Kwang Ng published a response to this paper, noting that, due to a mathematical mistake, it might have overestimated the intensity of suffering for animals who die early in life, and that, once we correct for this mistake, we discover that no clear conclusion follows one way or the other from this math.[10]

For these and other reasons, while these methods of estimating nonhuman well-being are very useful, they are not enough to tell us what to do. For example, while measuring biological age might tell us which environments are less stressful for animals, it will not, by itself, tell us whether animals have better or worse lives in particular environments, since, as we have seen, well-being likely depends on more (and less) than stress. This method of estimating nonhuman well-being will also not, by itself, tell us whether animals have lives worth living in particular environments. After all, it would take additional work to determine how much stress is sufficient to produce net negative well-being for particular animals, as well as to determine whether or not net negative well-being is sufficient to make life not worth living.

Similarly, while assessing population dynamics might tell us whether happiness or suffering prevails in a particular population, it will not, by itself, tell us whether preserving this population is good or bad. For example, if we think that life is worth living when it contains more happiness than suffering, and if we think that the same standard applies for both individuals and populations, then we might think that preserving a population with more happiness than suffering is good, all else equal, and that preserving a population with more suffering than happiness is bad, all else equal. But if we accept a different view about how to assess well-being for individuals or populations, then we might not think that. And as we will see, we need to ask other questions as well before we can know what we should do all things considered.

8.5. The rebugnant conclusion

Is a world with more happiness better than a world with less? It might seem plausible that the answer is yes. For example, suppose that we have to choose between two worlds. The first contains 10,000,000

humans with 1,000,000 units of happiness each.[11] The second contains 20,000,000 humans with 999,999 units of happiness each. In this case, it seems plausible that the second world is better, all else equal. Granted, everyone is *a bit* less happy in the second world. But there are twice as many humans overall, and everyone is *nearly* as happy, and so the world has nearly twice as much happiness overall, all else equal. So far, this seems like a good line of reasoning. But if we take this line of reasoning all the way to its logical conclusion, then we might find ourselves committed to some surprising implications.

In particular, suppose that we repeat this process over and over again. Instead of 20,000,000 humans with 999,999 units of happiness each, we select a world that contains 40,000,000 humans with 999,998 units of happiness each. Then, instead of that world, we select a world that contains 80,000,000 humans with net 999,997 units of happiness each. And so on. Eventually, we would select a world that contains an incredibly high number of humans with only one unit of happiness each. Everyone would still have lives worth living (assuming a neutral baseline),[12] and the world would still contain much more happiness overall. But everyone would also have lives only *minimally* worth living. Derek Parfit, who introduced this problem, went so far as to call the idea that this last world is best *the repugnant conclusion*.[13]

We can face similar choices regarding nonhuman animals, too, in both single-species cases and multispecies cases. Take a multispecies case. Suppose that we have to choose between two futures. The first contains fewer animals overall and a higher ratio of animals with large brains, such as elephants, to animals with small brains, such as ants. The second contains more animals overall and a higher ratio of animals with small brains, such as ants, to animals with large brains, such as elephants. Suppose further that all these animals have lives worth living, but that the first future contains more happiness on average and that the second contains more happiness in total. In this case, the previous line of reasoning would imply that the second future is better than the first. We can call this implication *the rebugnant conclusion*.

Many people might find the rebugnant conclusion, like the repugnant conclusion, implausible, and so they wonder if we can find a plausible alternative to the view that we should assess outcomes by estimating how good or bad they are for the population *in total*. There are

many alternative views, but we can consider two here. One common alternative holds that we should assess outcomes by estimating how good or bad they are for the population *on average*. Another common alternative holds that we should assess outcomes by estimating how good or bad they are for *the worst-off members* of the population. These views are hard to assess even in single-species cases, and they will be even harder to assess in multispecies cases, given how many differences there can be across species.

To see what I mean, take the idea of average impacts and the idea of the impacts for the worst-off. How can we interpret these ideas in a multispecies context? Suppose that policy A would produce 1,000 animals with relatively small brains and short lifespans. On average, these animals would have the potential to experience about 1,000 units of happiness each, and they would in fact experience about 800 units each—that is, about 80% as much as they possibly can. Now suppose that policy B would produce 100 animals with relatively large brains and long lifespans. On average, these animals would have the potential to experience about 10,000 units of happiness each, and they would in fact experience about 6,000 units each—that is, about 60% as much as they possibly can. How should we compare these outcomes?

If we think that total impacts are what matter, then the answer might seem clear: The animals produced by policy A are happier in total, since they have 800,000 units of happiness overall, rather than a mere 600,000 units. But if we think that average impacts or the impacts for the worst-off are what matter, then the answer might seem less clear. On one hand, we might think that the animals produced by policy B are happier on average and better off, since they have 6,000 units of happiness on average, rather than a mere 800 units. On the other hand, we might think that the animals produced by policy A are happier on average and better off, since they have 80% as much happiness as they possibly can on average, rather than a mere 60%. These interpretations both make sense, but they support different conclusions.[14]

As I said, I will not be able to answer these questions here. But I will make two points in favor of keeping an open mind about the total view. First, to the degree that the rebugnant conclusion seems implausible, that might be due at least in part to human bias and ignorance. For instance, speciesism might lead us to see insects as

having a lower capacity for well-being and moral status than they do. And the availability heuristic and scope insensitivity might have the same effect, since we have a hard time making insect happiness and suffering salient for ourselves, and we also have a hard time imagining how much happiness and suffering insects might be experiencing in the world. If we correct for these biases, then we might decide that the rebugnant conclusion is more plausible than we initially thought.

Second, every view about population ethics has implausible implications. For instance, the total view implies the rebugnant conclusion. But the average view implies that a population with one animal with 10,000 units of happiness is better than a population with billions of animals with 9,999 units of happiness each. And the worst-off view implies that a population with one animal with two units of happiness is better than a population with one animal with one unit of happiness and billions of animals with 10,000 units of happiness each. And if every view about population ethics has implausible implications, then our aim should be to minimize implausibility rather than eliminate it. In short, we will likely have to accept at least some (initially) implausible implications no matter what.

8.6. The swan identity problem

What should we do when our choices determine not only *how well-off* future people are but also *who* future people are? For example, suppose that if we pollute the planet, then trillions of future humans will have only minimally good lives (we can call this future A). However, if we avoid polluting the planet, then trillions of future humans will have very good lives (we can call this future B). In this case, we might intuitively think that polluting the planet is harmful, all else equal, on the grounds that it makes trillions of future lives worse. But now suppose that because the pollution will also affect reproduction patterns, the humans who would have minimally good lives in future A would not exist at all in future B, and vice versa. This raises a question: If polluting the planet is harmful in virtue of these future effects, whom is it harming?

We might think that polluting the planet harms the humans in future A, by making them worse off than the humans in future B. Alternatively, we might think that it harms the humans in future B, by preventing them from existing at all. But both of these ideas seem problematic. After all, we normally think that harming someone is a matter of making them worse off than *they* would have otherwise been, and we also normally think that harming someone requires that they *exist*. And if the humans in future A have lives worth living and would not exist at all in future B, then it is hard to see how bringing about future A is worse for *them*. This leaves it unclear how, if at all, polluting the planet can be harmful in virtue of its impact on future lives. Derek Parfit, who introduced this problem as well, called it *the non-identity problem*.[15]

As with the rebugnant conclusion, we can face non-identity problems regarding nonhuman animals, too, in single-species cases as well as in multispecies cases. Take a single-species case. Suppose that if we pollute the lake, then thousands of swans will have only minimally good lives in future A. However, if we avoid polluting the lake, then thousands of swans will have very good lives in future B. Suppose further that because the pollution will affect swan reproduction patterns, the swans who would have minimally good lives in future A would not exist at all in future B, and vice versa. This raises the question whether polluting the lake is harmful in virtue of its impact on these future swans. We can call this example of the non-identity problem the *swan identity problem*.[16]

Philosophers have explored many possible solutions to the non-identity problem. One option is to reject the idea that causing harm requires making a particular life worse. For example, on *impersonal* views about harm, we can think about harm in terms of whether we decrease well-being in general, rather than in terms of whether we decrease well-being for particular individuals. Alternatively, we can attempt to show that making particular lives worse is possible in non-identity cases. For example, on *counterpart* views, we can say that different individuals in different futures can function as "counterparts" for each other, and we can then say that actions are harmful to the degree that they make individuals in the actual future worse off than their counterparts in other possible futures.[17]

When we consider non-identity in multispecies cases, we once again face difficult additional questions. Consider the choice that we faced in the previous section: Policy A would produce 1,000 animals, where these animals would have about 800 units of happiness out of a possible 1,000 on average. And policy B would produce 100 animals, where these animals would have about 6,000 units of happiness out of a possible 10,000 on average. How should we evaluate these options? If we accept an impersonal view about harm, we can evaluate them the same way that we did before: Policy A is better according to the total view, and either policy A or policy B is better according to the average and worst-off views, depending on how we interpret them. But how can we evaluate these options if we accept a counterpart view?

That depends on when, if ever, members of different species can function as counterparts for each other. Plausibly, two individuals need to be relevantly similar in order to function as counterparts for each other. Are the animals produced by policies A and B relevantly similar? On one hand, we might think that the answer is no, since each animal produced by policy B has the same capacity for well-being as 10 animals produced by policy A. On the other hand, we might think that the answer is yes, since we can make at least some comparisons between these animals, including comparisons about total and average well-being. Since many of our policies will have different impacts for different species, a lot will depend on whether we can apply views such as the counterpart view to such impacts.

In any case, as with the repugnant conclusion, I will not be able to solve the non-identity problem here. But I will make a couple of points in favor of considering our impacts on future animals. First, the non-identity problem arises only when our actions cause individuals to exist who would not otherwise exist. So, insofar as particular animals will exist either way, we do not need to solve the non-identity problem in order to vindicate the idea that our actions can harm them, since our actions can make them worse off than *they* would have otherwise been. And many animals will, in fact, come into existence whether or not we pursue particular policies, at least in the short term. Thus, we will need to consider our impacts on many future animals whether or not we solve the non-identity problem, at least in the short term.

Second, the non-identity problem arises only when our actions bring into existence animals who have lives that are better for them than non-existence but worse for them than the lives of animals in other possible futures. So, insofar as particular future animals will have bad lives, we do not need to solve the non-identity problem in order to vindicate the idea that our actions can harm them, since we plausibly harm these animals simply by bringing them into existence and subjecting them to bad lives. And many future animals will, in fact, have bad lives because of our policies, not only in the short term but also in the long run. Thus, we will once again need to consider our impacts on many future animals whether or not we solve the non-identity problem, not only in the short term but also in the long run.

8.7. Additional asymmetries

Do we have a moral obligation to cause or allow good lives to exist? And do we have a moral obligation to avoid causing or allowing bad lives to exist? If so, are these obligations equally strong and universal, or are some stronger and more universal than others? Some people think that we have all of these obligations, and that all of these obligations are equally strong and universal. Other people think that we have some of these obligations but not others, or that some of these obligations are stronger and more universal than others. We already considered how non-identity might affect our answer to this question. In this section, we will consider two other possible sources of asymmetry: the possibility of a moral difference between benefits and harms, and the possibility of a moral difference between causing and allowing harm.

First, consider the possibility of a moral difference between benefits and harms. Is our moral duty to reduce harms stronger than our moral duty to increase benefits? As we discussed in Chapter 2, some people, typically consequentialists, think that the answer to this question is no. On this view, if we have to choose between adding 100 units of happiness to the world and subtracting 100 units of suffering from the world, then we morally ought to be neutral between these options, all else equal. In contrast, other people, typically nonconsequentialists, think that the answer to this question is yes. On this view, if we have to choose

between adding 100 units of happiness to the world and subtracting 100 units of suffering from the world, then we morally ought to do the latter, all else equal.

This disagreement can have implications for creation ethics. In particular, suppose that we think that causing or allowing good lives to exist is a benefit for these individuals, and that causing or allowing bad lives to exist is a harm for these individuals (as some but not all people do[18]). On this view, a symmetry between benefits and harms might lead to a symmetry between a duty to bring about good lives and a duty to avoid bringing about bad lives, all else equal. In contrast, an asymmetry between benefits and harms might lead to an asymmetry between these duties. In particular, if we think that our duty to reduce suffering is stronger than our duty to increase happiness, then we might also think that our duty to avoid bringing about bad lives is stronger than our duty to bring about good lives, all else equal.

Second, consider the possibility of a moral difference between causing and allowing harm. Is our moral duty not to cause harm more universal than our moral duty not to allow harm? As we discussed in Chapter 2, some people, typically consequentialists, think that the answer to this question is no. On this view, we have a duty to reduce the harm that we cause *and* allow whenever we can, all else equal. In contrast, other people, typically nonconsequentialists, think that the answer to this question is yes. On this view, we have a duty to reduce the harm that we cause whenever we can, all else equal. But we do not have a duty to reduce the harm that we allow whenever we can. Instead, we have a duty to reduce the harm that we allow sometimes, and we have a right to choose when and how we do so.

This disagreement can have implications for creation ethics as well. In particular, a symmetry between causing and allowing harm might lead to a symmetry between a duty not to *cause* bad lives to start and a duty not to *allow* bad lives to start, all else equal. In contrast, an asymmetry between benefits and harms might lead to an asymmetry between these duties, all else equal. In particular, if we think that our duty not to cause harm is stronger and more universal than our duty not to allow harm, then we might also think that our duty not to cause bad lives to start is stronger and more universal than our duty not to allow bad lives to start, all else equal. We are always required not to cause bad

lives to start unnecessarily, whereas we are only sometimes required not to allow bad lives to start unnecessarily.

Different views about these issues can result in different views about whether to cause or allow good or bad nonhuman lives to exist. For instance, suppose that we expect that reforestation will produce many additional good *and* bad nonhuman lives. How should we morally evaluate reforestation, with respect to these impacts? On a symmetry view, we might evaluate this activity positively to the degree that these animals will have good lives and negatively to the degree that they will not, all else equal.[19] In contrast, on an asymmetry view, we might evaluate this activity more negatively, all else equal, to the degree that we prioritize harms over benefits and see ourselves as responsible for these harms. And we might evaluate this action less negatively, all else equal, to the degree that we do not.

Different views about these issues can also result in different views about the ethics of bringing about future lives in cases of uncertainty about whether these lives will be good or bad for their subjects. On a symmetry view, we might think that the risk of bringing about more bad lives and the risk of bringing about fewer good lives are equally bad, all else equal. Thus, we might think, a precautionary principle is neutral between these risks, all else equal. However, on an asymmetry view, we might think that the risk of bringing about more bad lives is worse than the risk of bringing about fewer good lives, all else equal. Thus, we might think, the precautionary principle supports a policy of not bringing about future lives in cases of uncertainty about whether these lives will be good or bad for their subjects, all else equal.

As I argued in Chapter 2, we might think that we should strike a balance between these views in practice. On one hand, even if a consequentialist sees no difference between causing or allowing harms in principle, they might still have reason to see a difference between them in practice, for reasons having to do with the complexity of global harms in the Anthropocene. On the other hand, even if a nonconsequentialist sees a difference between causing or allowing harms in principle, they might still have reason to blur these lines in practice, for reasons having to do with our complicity in global harms in the Anthropocene. Either way, then, the question that we face in

practice might not be whether to accept or reject these distinctions entirely, but rather to what degree to accept them in particular contexts.

8.8. We have no idea what kind of world to build for animals

I have argued in this book that we have a moral duty to include nonhuman animals in health and environmental advocacy and policy, and that, when we do, we might need to reconsider many assumptions that we previously took for granted. For example, when all we consider is our own species, we might think that a global change that harms us is clearly bad. But when we consider other species as well, we might need to reconsider this question. We can now see part of why evaluating the impacts of global changes on all sentient beings is so difficult to do well. In particular, how we evaluate these impacts will depend on our answers to a wide range of difficult empirical and normative questions. And it might be that if we change our answer to any particular question, then our entire evaluation will change as a result.

To see what I mean, consider how climate change will impact nonhuman populations. In particular, suppose that in a world reshaped by climate change, insect populations will expand north and south. Now suppose that, as a result of this change, a world reshaped by climate change contains many more animals overall, and it also contains a much higher ratio of r-strategists—that is, animals with small bodies, short lifespans, and high reproduction rates—to K-strategists—that is, animals with large bodies, long lifespans, and low reproduction rates. Granted, even if climate change does produce this trend, it might produce other, competing trends as well. But even if we focus for the sake of simplicity on this trend, how, if at all, can we evaluate it? We can now see part of why this is such a difficult question to answer.

First, we need to ask which animals count and how much they count. As I explained in the last chapter, I think that we morally ought to count insects at least somewhat, since insects have a non-negligible chance of being sentient, and so we should treat them as having the capacity for at least some positive and negative well-being according to both the precautionary and expected value principles. But even if we

accept that, we still face the question of how much to count them. And in this case, the more we count them, the more the expected value of climate change will depend on the expected impacts on insects. With that said, given how many insects there are in the world, we would need to count individual insects *vanishingly* little in order to prevent the expected impacts on insects from mattering *a lot* in the aggregate.

Second, we need to ask which animals have good and bad lives. For example, suppose that we think that insects tend to have good lives. In that case, we might think that a world with sufficiently many additional insects would have more happiness in total, since there would be so many more happy individuals, but would have less happiness on average, since there would be so much less happiness per individual (at least if we assess average happiness objectively). However, now suppose that we think that insects tend to have bad lives. In that case, we might think that a world with sufficiently many additional insects would have more suffering in total, since there would be so many more suffering individuals, but would have less suffering on average, since there would be so much less suffering per individual.

Third, we need to ask whether the repugnant conclusion is, in fact, repugnant. Should we favor a world with quintillions of additional insects? It depends. If we think that total well-being is what matters and that insects tend to have good lives, then we might think that this world is better, since it has more happiness in total. However, if we think that total well-being is what matters and that insects tend to have bad lives, then we might think the reverse. In contrast, if we think that, say, average well-being is what matters and that insects tend to have good lives, then we might think that this world is worse, since it has less happiness on average (on some interpretations). However, if we think that average well-being is what matters and that insects tend to have bad lives, then we might think the reverse (again, on some interpretations).

Fourth, we have to know whether the non-identity problem is, in fact, a problem. Can we include harms to distant future animals with lives worth living in our impact assessments? It depends. If we think that the non-identity problem has a solution, then we can include harms to *all* animals in our impact assessments, independently of whether they live in the near or far future, and independently of

whether they have good or bad lives. However, if we deny that the non-identity problem has a solution, then we can include harms to animals only if they live in the near future (since these animals will plausibly come into existence either way) or have bad lives (assuming that we think that creating a bad life harms the individual in question). Since climate change is a slow process, this difference will matter a lot as well.

Fifth, we have to know if we should evaluate all expected impacts symmetrically. Suppose that climate change will increase happiness in the world, but that it will do so by, say, creating three good lives (or life-years) for every two bad ones. How should we evaluate this outcome? Again, it depends. If we think that harms and benefits matter equally, then we might think that climate change is good, all else equal, on the grounds that it increases positive well-being. However, if we think that harms matter, say, twice as much as benefits, then we might think that climate change is bad, all else equal, on the grounds that it creates the moral equivalent of four bad lives (or life-years) for every three good ones. Since climate change will likely have mixed effects, this difference will matter a lot as well.

And of course, these are only some of the variables that might affect our thinking about whether or not particular human activities are good, bad, right, or wrong. There are many others as well. For example, as I noted previously, human activities such as agriculture and deforestation are causing global insect populations to decline. So even if these activities are also, via human-caused climate change, causing insect populations to expand, we would need to compare these direct and indirect impacts (among many others) in order to estimate how these activities are impacting global insect populations overall. But my present point is that even if we can answer all these questions to our satisfaction, we will still need to answer all the questions discussed here in order to know how to morally evaluate these answers.

8.9. But we should start building it anyway

In part for these reasons, we might think that we should wait until later to start including animals in health and environmental advocacy and policy. Morally, we might think that our impacts on future humans and

nonhumans are more important than our impacts on current humans and nonhumans overall. And practically, we might think that we can do more good for future humans and nonhumans when we prioritize current humans. But even if we accept these moral and practical claims, we should not necessarily wait to include animals. Instead, we should strike a balance, by continuing to prioritize current humans to a degree while starting to include nonhumans to a degree as well, so that we can empower our successors to be both able and willing to help humans and nonhumans alike in the future.

Take each of these considerations in turn. First, morally, we might think that our impacts on future humans and nonhumans are more important than our impacts on current humans and nonhumans. After all, in the same way that nonhumans likely have much more at stake than humans in the aggregate, future humans and nonhumans likely have much more at stake than current humans and nonhumans in the aggregate. Thus, our actions are plausibly causing much more happiness and suffering across species and generations than within our own species and generation. And even if we think that only some of these impacts count as benefits and harms (for, instance, due to the non-identity problem), we might still think that enough of them count as benefits and harms that they take priority, all else equal.

Second, practically, we might think that we can do more good for future humans and nonhumans when we prioritize current humans. After all, given the limits on our knowledge, power, and political will, we can likely do more good in the long run if, instead of attempting to help future humans and nonhumans directly, we attempt to help them indirectly by empowering our successors to do this work. That is, the more we work to improve human lives and social, political, and economic systems now, the more able and willing our successors will be to help humans and nonhumans later. Thus, we might think that as much as we might like to start including animals in health and environmental advocacy and policy now, we ultimately owe it to humans and nonhumans alike to wait.

But while I think that these considerations are reasonable, I do not think that they support waiting to include animals. For the record, I accept the moral premise of this argument. I think that our expected impacts on future humans and nonhumans are sufficiently massive

that our moral responsibilities to future humans and nonhumans might outweigh our moral responsibilities to current humans and nonhumans all things considered. So, I am open to the possibility that practices that do more good than harm for humans and nonhumans in the short term can still be wrong if they do more harm than good for humans and nonhumans in the long run. (With that said, if we were to reject the moral premise of this argument, then that would make the case for helping animals now even stronger than I am suggesting.)

But while I agree with the moral premise of this argument, I only partly agree with the practical premise. In particular, I agree that, insofar as our moral responsibilities to future humans and nonhumans outweigh our moral responsibilities to current humans and nonhumans all things considered, we should prioritize interventions that can help in the long run. I also agree that insofar as we should prioritize interventions that can help in the long run, we should prioritize interventions that can empower our successors to be able and willing to help humans and nonhumans alike. But I think that the best way to empower our successors to do this work well is to start including animals in health and environmental advocacy and policy now, for at least two related reasons.

First, as we have seen throughout this book, human and nonhuman health, welfare, and rights are linked. This is true not only because our treatment of nonhuman animals is a leading contributor to pandemics, climate change, and other global threats that limit our ability to build a just multispecies society. It is also true because all oppressions, human as well as nonhuman, have shared conceptual, social, political, and economic foundations. Thus, even if our goal is to improve human lives and social, political, and economic systems, we should *still* address human and nonhuman oppression holistically as a means to this end. Holistic, structural advocacy and policy are necessary to address the cognitive, motivational, health, and environmental forces that are currently making human and nonhuman lives worse.

Second, if our goal is to empower our successors to help humans and nonhumans alike, then we need to ensure that they are *both* able *and* willing to do so. This requires more than ensuring that our successors have better lives and social, political, and economic systems in general.

It also requires ensuring that they have more knowledge about how to help animals, more power to help animals, and more political will to help animals in particular. And to accomplish that aim, we need to work to increase our own knowledge, power, and political will in these respects. In general, there is a path dependence to how history unfolds, and our actions and policies now have the potential to determine what path history takes. We should do what we reasonably can to set history on a more inclusive path.

Thus, in keeping with the ambivalence I have maintained throughout this book, I think that we should strike a balance. We should prioritize humans to a degree for now, on the grounds that helping humans and nonhumans in the long run requires improving human lives and social, political, and economic systems in the short term. But we should also start including other animals in health and environmental advocacy and policy now. Reducing our use of animals is necessary for mitigating global threats that impact humans and nonhumans alike. And increasing our support for animals, at least in the limited ways proposed in this book, is necessary for building the knowledge, power, and political will that our successors will need to be able and willing to do the work that we are asking them to do.

8.10. Conclusion

Our impacts on nonhuman animals are both important and complicated. They are important because human activity is impacting many orders of magnitude more nonhumans than humans for the foreseeable future. And they are complicated because we currently have no idea how to evaluate many of them. Not only do we need to answer many empirical questions, such as how human activity might impact nonhuman populations. We also need to answer many normative questions, such as which animals carry weight, how much weight they carry, whether and how our activity is making their lives better, worse, good, or bad, and whether and how to evaluate (and interpret!) total well-being, average well-being, distributions of well-being, human-nonhuman interactions, and other such features of multispecies populations.

As a result, we cannot currently take anything for granted. As we have seen, when all we consider is human well-being, it might be clear that pandemics and climate change are bad and that particular mitigation and adaptation efforts are good. But when we consider all animals, even these conclusions are no longer clear. These global changes will produce winners and losers, and we need to consider all of these impacts (and more) before deciding which outcomes and policies are best. For instance, if we think that climate change will expand insect populations, that insects tend to have good lives, and that total well-being is what matters, then we might think that climate change is good, all else equal. However, if we accept any two of these claims while rejecting the third, then we might accept the opposite!

Throughout this book, I have attempted to find the middle ground between tempting extremes, and I think that we should do the same here. I do not think that we should pause all mitigation and adaptation efforts until we can get to the bottom of these issues, since the threats that we face are too urgent and complex for that, and we need to address these threats to empower our successors to build a more just society. Nor do I think that we should exclude animals from our mitigation and adaptation efforts until we can get to the bottom of these issues, since animals are central to the threats that we face, and our mitigation and adaptation efforts need to reflect that reality. Thus, I think that we should pursue mitigation and adaptation efforts now, while including animals in this work as much as our limits will allow.

This is ultimately why I made the proposals that I did in this book. In Chapter 5, I proposed that we reduce our support for factory farming, deforestation, and the wildlife trade; increase our support for humane, healthful, and sustainable alternatives; and include animals in impact assessments and policy decisions not only because taking these steps will help many humans and nonhumans in the short term but also, and more important, because it will allow us to build the resources that we need to help humans and nonhumans more ethically and effectively in the long run. We might not know what kind of just multispecies, multinational, multigenerational society is achievable or sustainable right now. But the sooner that we accept that we have a responsibility to pursue this goal, the sooner we can start finding out.

9
Conclusion
Of minks and men

9.1. The mink pandemic

Humans breed, raise, and kill an estimated 30–50 million animals each year for their fur. While the scale of the fur industry pales in comparison to the scale of the meat industry, it is still high enough to require similar industrial methods and involve similar animal welfare harms. For example, many farmed minks live in small wire cages on large farms. This environment is highly stressful for minks, and it can result in cannibalism, self-mutilation, stereotyped behaviors, and other indicators of distress. Farmed minks can also suffer from exposure to cold weather during the winter and hot weather during the summer. And, of course, they can suffer during slaughter, which typically involves either gassing or injections, both of which can take time to kill minks and which can cause severe pain in the process.[1]

As with raising animals for food, raising animals for fur contributes to public health and environmental threats as well, including pandemics. For example, mink farms are ideal breeding grounds for respiratory diseases. Minks are highly vulnerable to these diseases, and they are often housed near each other in unsanitary conditions with limited access to veterinary care. Thus, when the COVID-19 pandemic started in early 2020, we knew—or, at least, we should have known—that it was only a matter of time before the pandemic reached mink farms. Sure enough, we started to see such outbreaks in late spring. The Netherlands had a mink outbreak in April. Denmark had a mink outbreak in June. The United States had a mink outbreak in October. By December, hundreds of mink farms across nine countries had outbreaks.[2]

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COVID-19 can mutate in the course of spreading between humans and nonhumans. Between June and November 2020, at least 214 humans in Denmark contracted SARS-CoV-2 variants associated with farmed minks, and at least 12 humans contracted a unique variant known as "cluster 5." On November 6, 2020, the World Health Organization reported that, while we still have much to learn about cluster 5, "[p]reliminary findings indicate that this particular mink-associated variant identified in both minks and the 12 human cases has moderately decreased sensitivity to neutralizing antibodies."[3] This finding raised questions about whether variants such as cluster 5 might undermine global vaccination efforts, which, in turn, raised questions about how to prevent the spread of these variants ethically and effectively.

In light of these developments, Danish authorities announced in November 2020 that they would require a mass "culling" of all farmed minks in the country, including minks used for breeding—more than 17 million in total.[4] However, this announcement was controversial, since critics alleged that Danish authorities had no right to order a "cull" of unaffected minks without passing new legislation, which normally takes at least a month to do, and which they might or might not have been able to do at all in this case. As a result, Danish authorities announced that they would not require a mass "cull" after all, but would rather merely recommend one, and would compensate anyone who voluntarily complied. Many farmers complied with this recommendation and proceeded to kill their minks.[5]

Any mass killing of millions of sentient beings in a short period of time will raise concerns about welfare, health, and environmental impacts. The mass "culling" of minks in Denmark was no exception. Regarding welfare impacts, the mass "culling" reportedly involved gassing minks in large boxes.[6] Even when gassing works as intended, it can cause a lot of pain and suffering, both physical and emotional. Moreover, when gassing fails to work as intended, it can cause even more pain and suffering. For instance, when minks survive the initial gassing, they can be left to suffocate slowly, surrounded by rotting flesh and toxic fumes. While gassing animals might be better than other common practices, such as burying animals alive, it is still a far cry from what most people would ordinarily think of as humane.

Regarding the health and environmental impacts, *The Guardian* reported in December 2020 that, "[u]nable to incinerate such a large number of dead animals at once, authorities buried millions in vast, shallow 2-metre pits in a military training area in West Jutland, from which some recently began emerging as their bodies filled with gasses." Following this incident, the Danish environmental protection agency reported that groundwater might already be contaminated, and the ministry of food, agriculture, and fisheries "conceded that it could not say with certainty where or how 4,700 tonnes—or about 1.5 million—dead mink had been disposed of." The reality, according to agriculture minister Rasmus Prehn, is that when an agency needs to dispose of millions of minks at once, "we cannot account for every mink."[7]

We have evidence that farmed minks, through no fault of their own, can be involved in the spread of COVID-19 in other ways as well. In particular, COVID-19 can spread not only from humans to humans, from humans to nonhumans, and from nonhumans to humans, but also from nonhumans to nonhumans, including from farmed animals to wild animals and back. For example, in December 2020, a wild mink in Utah—the location of the first reported farmed mink outbreak in the United States—tested positive for COVID-19. Fortunately, at the time of writing, humans have yet to find evidence of widespread transmission among wild animals. But widespread transmission is possible, even probable. And if it occurs, then COVID-19 will be much harder to contain, and novel variants will be much harder to prevent.[8]

Given our reaction to the farmed mink outbreaks, it is easy to imagine what our reaction to a wild mink outbreak might be. Humans would once again initiate a mass "culling" to prevent further outbreaks or mutations. As in the farmed mink case, but even more so, this approach to disease containment would likely cause many animals to suffer and die unnecessarily. And as in the farmed mink case, but even more so, there is no guarantee that this approach to disease containment would, in fact, prevent further outbreaks or mutations. Farmed minks are relatively easy to quarantine, and yet they still interact with other animals enough to be a vector for disease. In contrast, wild minks—and wild animals in general—are much harder to quarantine. Once the virus is in the wild, it might be impossible to fully contain.

9.2. To cull or not to cull? That is not the question

As nations debated what to do about the mink pandemic, most ethical debates focused on the human costs of each possible response. These debates were especially intense in Denmark, since Denmark is a leader in the global mink fur trade. On one hand, insofar as Denmark allowed the mink fur trade to continue, they risked making the COVID-19 pandemic worse, with possible "implications for immunity, reinfections, and the effectiveness of COVID-19 vaccines." On the other hand, insofar as Denmark restricted the mink fur trade, they risked harming an industry that employs about 5,500 people, all for the sake of "highly uncertain" public health benefits. The eventual decision to recommend a mass "cull" while compensating anyone who complied attempted to strike a balance between these risks.[9]

Fewer people debated the nonhuman costs of each possible response. Insofar as they did, they tended to focus on whether or not we should "cull" the minks and, if so, how. On one hand, the case against "culling" the minks was that humans would be punishing millions of innocent nonhumans for a human-caused problem. How can we breed millions of sentient beings, keep them in captivity, expose them to an infectious disease, and then simply kill them to contain the spread of disease? On the other hand, the case in favor of "culling" the minks was that humans would be minimizing harms to humans and nonhumans alike. Many farmed minks already have bad lives, and farmed minks who contract COVID-19 would have even worse lives. In this context, an early death might be a relief for many of these animals.

These debates illustrate how much more expansive our moral imaginations tend to be when we think about harms to humans than when we think about harms to nonhumans. What do we do when an outbreak occurs in a human population? We aspire to care for everyone affected as much as possible, while limiting the spread to everyone else as much as possible. (Granted, some nations are better at taking these steps than others, but we all accept that these steps are good.) In contrast, what do we do when an outbreak occurs in a nonhuman population? If the nonhumans are companion animals, then we might take some of these steps. However, if the nonhumans are farmed or wild

animals, then we typically skip these steps and simply ask whether and how to kill them. The thought of healthcare never even occurs to us.

Of course, there are reasons that the thought of healthcare never occurs to us. Many humans see farmed and wild animals as objects that are here for us, rather than as subjects who are here for themselves. And once an object is no longer useful for us, why would we spend time, energy, and money caring for it? Additionally, even if we wanted to care for farmed or wild animals during a pandemic, how could we? After all, we currently "own" tens of millions of farmed minks at any given time, and we also interact with many wild animals. We lack the ability to treat these animals well even when everything is going well, to say nothing of when anything is going badly. As a result, when a pandemic occurs, we focus on whether and how to kill these animals, since we lack the ability or willingness to do anything else.

But while these considerations might explain our limited moral imaginations, they do not justify them. Nonhuman animals like minks are subjects, not objects. They have consciousness, emotionality, a sense of self, and bonds of care and interdependence, and we have a moral responsibility to consider their interests and needs when deciding how to treat them. And if we currently lack the ability and willingness to care for captive or wild animals who are vulnerable to human-caused outbreaks, then we have a responsibility to do something about that. We should not keep captive minks if we are unable or unwilling to care for them during a crisis (to say nothing of during normal times). And while we might never be able to care for *all* wild animals, we can at least develop the ability to care for more of them than is presently possible.

But while we might agree about these ideals in theory, we would need to pursue major structural changes in order to live up to them in practice. First, we need to reduce support for mink farming in general. Even if we assumed for the sake of discussion that the practice of breeding, raising, and killing minks for fur can be ethically acceptable (in cases where humans have other, less harmful sources of clothing and income available), we would still need to fundamentally transform current methods of breeding, raising, and killing minks in order to ensure that they are treated as respectfully and compassionately as possible. These changes would substantially increase the cost of farming

minks and substantially reduce the number of minks farmed, rendering mink fur, at best, a rare commodity for the privileged few.

Second, we need to increase support for captive and wild animals in general. Even if we wanted to care for minks during a crisis rather than kill them, we would be unable to do so since we lack the necessary infrastructure. We need to improve and expand research, education, and employment around animal care. We also need to improve and expand social services and infrastructure for animals, for example by building more rescues and sanctuaries and by considering both human and nonhuman interests and needs when designing urban environments. These changes will increase our ability to care for captive and wild animals alike, so that we can reduce and repair the harms that our activity is imposing on these vulnerable populations, thereby benefiting humans and nonhumans alike in the long run.

This discussion highlights a tragic reality. It might be that "culling" millions of farmed minks was, in fact, the right course of action during COVID-19. Given how many minks we had in our care, given how much they were already suffering, given how much more they were likely to suffer with COVID-19, and given how few resources we had for caring for them, killing millions of them might have been the least bad course of action available to us. But if this is right, then it is an indictment of everything that led up to this moment. If we have so many minks in our care and so few resources for caring for them that our only recourse during an outbreak is to kill them, then we have made a serious moral mistake. We never should have been in this situation in the first place, and we should do everything that we can to get out of it.[10]

9.3. Lessons for the future

The mink pandemic illustrates how complex health and environmental advocacy and policy will have to be moving forward. As we have seen in this book, mink farming is not the only kind of animal use that contributes to pandemics. Factory farming, deforestation, the wildlife trade, and other such practices contribute as well, by creating more opportunities for zoonotic diseases to develop and spread between

humans, captive animals, and wild animals. And minks are not the only kind of animal who can suffer during a pandemic. Many other animals can suffer as well. Some animals suffer because they contract diseases, and others suffer because we neglect, exploit, or exterminate them. Minks are noteworthy for being vulnerable to all of these threats at once, but for many animals, any of these threats is too many.[11]

More generally, pandemics are not the only human-caused global threats that centrally involve nonhuman animals. Factory farming and deforestation contribute to climate change as well, since they release greenhouse gases into the atmosphere, and they also destroy natural environments that capture and store greenhouse gases. And climate change impacts nonhuman animals in many ways, through temperature swings, melting ice caps, rising sea levels, flooding coastal areas, an increase in the frequency and intensity of extreme weather events, regional conflicts over land, water, and energy, and more. Moving forward, every time hundreds, thousands, or millions of animals die in a flood or fire, we will have to wonder whether and to what degree our activity introduced or amplified this threat.

Can we apply the lessons we learned from the mink pandemic to other global human-caused threats? I think that we can. Here are several lessons that might generalize, and which reinforce the themes of this book. First, if animals are part of pandemics and climate change, then they need to be part of our solutions. We need to reduce our use of animals as part of our pandemic and climate change mitigation efforts, for instance by substantially reducing the scale of factory farming, deforestation, and the wildlife trade. We also need to increase our support for animals as part of our pandemic and climate change adaptation efforts, for instance by considering the interests and needs of captive and wild animals who are under our care, in the sense of being vulnerable to the effects of our activity.

Second, we need to think about complex moral questions with a variety of values in mind. In particular, in order to treat humans and nonhumans well, we need to think about whether our treatment of them is making their lives better or worse. But we also need to think about whether our treatment of them is respecting or violating their rights, whether our treatment of them is promoting positive or negative social perceptions of them, and whether our treatment of them is

cultivating caring or oppressive relationships with them. If we focus too much on direct well-being impacts, then we might overestimate the value of, say, killing animals to reduce their suffering during a crisis. But if we focus too little on direct well-being impacts, then we might sometimes miss opportunities to reduce human-caused harms.

Third, we need to think about complex empirical questions holistically and structurally. As with mink farming, thinking about how to treat animals within current social, political, and economic structures limits our moral imaginations. For example, we might think that neglecting, exploiting, or exterminating particular animals is necessary given the options currently available to us. But, first, this thought might sometimes be mistaken, since we might have other, more helpful or less harmful options available to us at present, if only we were willing to spend time, energy, and money pursuing them. Second, even if this thought is correct at present, we might still be able to expand our options in the future, by building the knowledge, power, and political will necessary to treat animals better than we presently can.

Fourth, we need to accept our responsibilities and our limitations in equal measure. Even in the mink case, honoring our responsibilities to everyone involved feels overwhelming. And in general, reducing our use of animals and increasing our support for animals holistically and structurally seems both necessary and impossible to do well. It can be tempting to resolve this tension by denying that we have a responsibility to help animals or by insisting that we have the knowledge, power, and political will that we need to help them. But that would be a mistake. We need to act now so that we can set ourselves on a path toward ethical and effective future action. But we also need to accept that many of our current actions might do more harm than good in the short term and only, at best, serve as cautionary tales for future action.

We can learn these lessons now. The question is whether we will. So far, signals are mixed. On one hand, the events of 2020 were transformative in many ways. During COVID-19, the Australian bushfires, and other such events, people discussed the relationship between animals, pandemics, and climate change more than ever before, and some nations took at least limited action, for instance by banning or regulating the wildlife trade. On the other hand, even in the midst of these crises, people discussed these issues much less than we should have,

and nations took much less action than they should have. And as always happens, there is a risk that, as we overcome COVID-19, these lessons will fade from our memories, and our sense of urgency around pandemics, climate change, and other such threats will fade as well.

In this kind of situation, it can be tempting to feel either excessively optimistic or excessively pessimistic, since both attitudes seem to let us off the hook. If positive change is either inevitable or impossible, then we might as well not do much, since the world will get better or worse no matter what we do. But the reality is that positive change is neither inevitable nor impossible. We can make the world a better place for humans and nonhumans alike, but only if we accept that our basic structures are part of the problem, and only if we work to transform these structures with human and nonhuman interests and needs in mind. For this reason, I think that we should attempt to cultivate a cautious optimism about our prospects for change—and then we should do as much as we possibly can to make that attitude warranted.

9.4. States of emergency

We are only starting to glimpse the radical implications of our responsibilities to other animals. In order to treat animals well, we eventually need to build a humane, healthful, sustainable world for members of all species. This will be incredibly transformative, and it will require us to recalibrate our expectations about what our societies can be like. We currently aspire to build relatively unified, orderly societies in which we can all live and let live in harmony. But this aspiration depends in part on the exclusionary assumption that we should build our societies primarily or exclusively for humans. If we start building our societies for many other animals as well, then we might need to strike more of a balance between unity and diversity, and between order and chaos, than we previously hoped or expected.[12]

The aspiration to build a just multispecies society might seem to have this implication for at least three related reasons. First, a multispecies society has much more *need* than an exclusively human society does. Instead of meeting the needs of, say, hundreds of millions of humans, the state must meet the needs of, say, hundreds of trillions

of animals. And while we might be warranted in favoring our own needs to a degree, on the grounds that we need to take care of ourselves to be able to take care of others, there is a limit to how much we are warranted in doing that. On any reasonable approach to multispecies justice, we will need to distribute a higher share of benefits across species than we currently do. We might even, eventually, need to distribute a higher share across species than within our own.

Second, a multispecies society has much more *conflicting* need than an exclusively human society does. In an exclusively human society, we can imagine structural changes that would allow us to live and let live in harmony. But in a multispecies society, this ideal is harder to imagine. Many animals experience conflict not only directly, for instance through predatory or parasitic relationships, but also indirectly. Recall that there is no environment in which all animals can thrive at once. In warmer temperatures, some animals will do better and others will do worse. In urban environments, some animals will do better and others will do worse. And so on. Thus, in a multispecies society, trade-offs will likely be pervasive, and the prospects for a state of peace in which we can all live and let live in harmony will all but disappear.

Third, and relatedly, a multispecies society has much more *intractable* need than an exclusively human society does. In an exclusively human society, we can imagine achieving relatively high levels of liberty, equality, and security through relatively noninvasive means, such as social, political, economic, and infrastructural changes. But in a multispecies society, this ideal is harder to imagine as well. While noninvasive structural changes can reduce interspecies conflict, they might not be able to reduce interspecies conflict enough to achieve even moderate levels of liberty, equality, or security for all animals. And insofar as we are not able to achieve these results through noninvasive structural changes alone, we might find that other, more invasive methods are at least sometimes morally necessary.

We can find a partial precedent for this situation by considering emergency and wartime ethics. Many people agree that we should follow a different, more consequentialist set of norms in emergency and wartime situations. The reason is not that different foundational moral or political theories apply in such situations. The reason is instead that we regularly face tragic moral and political conflicts in such

situations, and so we regularly need to consider trade-offs that we might rarely if ever need to consider in ordinary life. However, many people also find solace in the idea that emergency and wartime situations are temporary and transitional. We endure these situations in an effort to return to ordinary situations, where tragic conflicts are rare enough that we can follow a more nonconsequentialist set of norms by default.[13]

What makes our moral and political future hard is that we must now see as ordinary what we have traditionally seen as exceptional. While we have been focusing on a multispecies society, the same is true, in different ways, of multinational and multigenerational societies. The scale of conflicting and intractable need across species, nations, and generations is many orders of magnitude greater than the scale of such need within any particular species, nation, and generation. It is also, for the foreseeable future, our perpetual status quo. When we create a new set of norms for this situation, we cannot do so in the spirit of enduring a chaotic and violent present for the sake of a stable and peaceful future. We must instead do so in the spirit of accepting that the world is simply more chaotic and violent than we might have hoped.

Of course, we can dissolve this problem to a degree by creating a world in which more humans and nonhumans can flourish harmoniously. We can also dissolve this problem to a degree by allowing that humans might merit stronger and more universal rights than many nonhumans. For instance, insofar as humans have a stronger interest in life, liberty, or property than many nonhumans, we can plausibly accept that humans have a stronger right to life, liberty, or property than many nonhumans without having accepted a speciesist double standard (at least according to some moral theories). In this way, we can treat all animals equally, in the sense of equally considering their interests and needs, while still treating some animals as having stronger or more universal rights than others in many cases in practice.

However, while we might be able to dissolve this problem to a degree, we might not be able to dissolve it entirely. And insofar as the problem remains, we face an ambiguous task moving forward. On one hand, we might need to accept a speciesist double standard between humans and nonhumans to a degree, in the spirit of caring for ourselves enough to make caring for others possible. On the other hand,

we do not need to accept a speciesist double standard to anything like the degree that we currently do for this purpose. Even if we accept different moral standards for humans and nonhumans for principled or pragmatic reasons, we should still accept that nonhuman interests and rights carry a lot of weight overall, and that they can sometimes trump human interests and rights all things considered in practice.

9.5. The expanding circle

I have argued in this book that we should expand our moral and political circle substantially. Humans are killing trillions of sentient animals per year, both directly, via violence, and indirectly, via threats such as outbreaks, fires, and floods. We should reduce and repair these harms as much as reasonably possible. In particular, we should reduce our use of animals as part of our pandemic and climate change mitigation efforts and increase our support for animals as part of our pandemic and climate change adaptation efforts. Moreover, we should do this work for humans and nonhumans alike, and we should do this work holistically, structurally, and comprehensively, by building shared structures that will allow us to reduce conflict as much as possible and resolve remaining conflict as thoughtfully as possible.[14]

In the course of making this argument, I focused on our responsibilities to sentient animals for the sake of simplicity, and I addressed my argument to people who are sympathetic with the idea of expanding our moral and political circle this far. But there is another possibility as well, which is that we should expand our moral and political circle even farther. There are at least two reasons why we should consider this possibility. First, even if sentience is sufficient for moral status, it might not be necessary. For instance, maybe life is sufficient as well, in which case we should extend moral and political status to all living beings whether or not these beings are sentient. While this view might seem implausible to many of us now, perhaps our successors will see our current perspective as biased and exclusionary.[15]

Second, even if sentience is necessary for moral status, there might be sentient beings who are not animals. Consider how much we are currently learning about plant cognition and behavior. Many plants

have the capacity for perception, learning, memory, action, and communication. They can detect helpful and harmful stimuli, they can move toward helpful stimuli and away from harmful stimuli, and they can send signals to other plants so that they can do the same. Granted, plants have highly distributed sensory and cognitive systems, and we might be warranted in having a very low degree of confidence that they can have subjective experiences or motivations at present. But given the problem of other minds, we might not be warranted in having no confidence at all that they can have such states at present.[16]

I think that we should take these possibilities seriously. When we look at the history of moral and political progress, we see a history of people overestimating what it takes to morally and politically count, and we also see a history of people underestimating who has what it takes. Each generation sees the mistakes of previous generations more clearly than its own, and there is no reason to expect that our generation will be any different in this respect. So while I find it plausible that sentience is both necessary and sufficient for moral status, and while I also find it plausible that only animals are sentient, I also have enough humility to appreciate that these views might be mistaken, and that these mistakes might be as clear to future generations as the mistakes of speciesism are to me.

Moving forward, new technologies will raise these questions about moral and political status as well. For example, humans might soon create artificial intelligences that structurally and functionally resemble sentient life. We already have programs that can beat human experts at board games and video games, and that can generate language well enough to pass for humans in some situations.[17] We might soon have programs that can do much more than that, via the same kinds of cognitive systems that human and nonhuman animals have. Eventually, the population of such programs might be much more varied and numerous than the population of animals, which, as we have seen, is much more varied and numerous than the population of humans. And we would have created them all, directly or indirectly.

Given these possibilities, I think that we might soon have to ask many of the same moral and political questions about artificial intelligences that we are currently asking about nonhuman animals. After all, if we

create these beings, then we will once again be interacting with many beings who are reasonably likely to be sentient. And if we use these beings for human benefit, then we might not only harm them directly. We might also, via this behavior, contribute to global threats such as nuclear war or totalitarianism, and these global threats might, in turn, introduce and amplify harms for humans and nonhumans alike, including artificial intelligences. In that case, we would need to take the steps discussed in this book all over again, and our work would involve even more urgency and complexity than it does now.

If we are wise, then we will learn from our mistakes now, so that we can prevent the next dystopia before it arrives, rather than deal with it when it is already here. In this respect, expanding our moral and political circle by taking the steps that I have proposed in this book might do more than help human and nonhuman animals in the short term and in the long run. It might also prepare our successors for the further, potentially more urgent and complex, work still to come. And insofar as we start doing this further work now (for instance, by resolving to treat artificial intelligences with respect and compassion before they are reasonably likely to be sentient), we can reduce the harms that our successors will need to address and increase the chance that they will be able and willing to address these harms.

When we consider the arguments in this book in this broader context, we might feel overwhelmed. But I think that we should instead—or, at least, also—feel empowered. We have the power to determine whether or not these further problems arise, and we also have the power to set humanity on a more inclusive path, so that we can address these problems if and when they do arise. If we accept that we have responsibilities to vulnerable others; if we accept that we have limits on our knowledge, power, and political will; if we build shared structures that allow us reduce conflict in the world as much as possible; and if we build shared structures that allow us to resolve remaining conflict as thoughtfully as possible, then we can work toward a better world for the vast multiplicity of vulnerable beings who might one day share it.

Notes

Preface

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Chapter 1

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Chapter 2

1. Some people use "sentience" to refer to the capacity to experience pleasure and pain and a different term to refer to the capacity to have desires and preferences. I am using "sentience" to refer to both capacities for the sake of simplicity, but if you like, you can substitute your preferred terminology without affecting my argument here.
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Chapter 4

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Chapter 5

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Chapter 6

1. For a clear, concise discussion of the legal and political status of animals, see Alasdair Cochrane, *Should Animals Have Political Rights?* (Cambridge: Polity Press, 2020).
2. For more on linking human, animal, and environmental interests in climate change mitigation and adaptation, see Jonathan Lovvorn, "Climate Change Beyond Environmentalism Part I: Intersectional Threats and the Case for Collective Action," *Georgetown International Environmental Law Review (GIELR)* 29, no. 1 (April 2017), https://doi.org/10.2139/ssrn.2946120.
3. For more detailed discussion of some of these political and economic issues, see Jamieson, *Reason in a Dark Time*.
4. For more detailed discussion of some of these links, see Adams, *Sexual Politics of Meat*; Aph Ko and Syl Ko, *Aphro-Ism: Essays on Pop Culture, Feminism, and Black Veganism from Two Sisters* (Brooklyn, NY: Lantern Books, 2017); Taylor, *Beasts of Burden*; and Lori Gruen, "The Faces of Animal Oppression," in *Dancing with Iris: The Philosophy of Iris Marion Young*, ed. Ann Ferguson and Mechthild Nagel, 225–237 (Oxford: Oxford University Press, 2009).
5. For more discussion of these questions, see Schlottmann and Sebo, *Food, Animals and the Environment*, Chapter 10.
6. "EU Court Backs Ban on Animal Slaughter without Stunning," BBC News, December 17, 2020, https://www.bbc.com/news/world-europe-55344971.

7. For information about working conditions in slaughterhouses, see Timothy Pachirat, *Every Twelve Seconds Industrialized Slaughter and the Politics of Sight* (New Haven, CT: Yale University Press, 2011). For an argument for prison abolition, see Angela Y. Davis, *Are Prisons Obsolete?* (New York: Seven Stories Press, 2003). For an argument that animal advocacy should stand in solidarity with decarceral advocacy, see Justin Marceau, *Beyond Cages: Animal Law and Criminal Punishment* (Cambridge: Cambridge University Press, 2019); and Kimberly Smith, "Reform," in *Governing Animals* (New York: Oxford University Press, 2012).
8. For discussion of alternatives to conservation biology as typically practiced, see Daniel Ramp and Marc Bekoff, "Compassion as a Practical and Evolved Ethic for Conservation," *BioScience* 65, no. 3 (February 2, 2015): 323–327, https://doi.org/10.1093/biosci/biu223; and Oscar Horta, "Promoting Welfare Biology as the Study of Wild Animal Suffering," Effective Altruism (Centre for Effective Altruism, February 26, 2019), https://www.effectivealtruism.org/articles/ea-global-2018-promoting-welfare-biology/.
9. For discussion of modern artificial insemination methods in animal agriculture, see Gabriel N. Rosenberg and Jan Dutkiewicz, "The Meat Industry's Bestiality Problem," *The New Republic*, December 11, 2020, https://newrepublic.com/article/160448/meat-bestiality-artificial-insemination.
10. For an example of this kind of proposal, see https://reducing-suffering.org/convert-grass-lawns-to-gravel-to-reduce-insect-suffering/.
11. For discussion of the ethics of genetically modifying wild animals to improve wild animal welfare, see Johannsen, *Wild Animal Ethics*, Chapter 5.
12. This relates to the idea that we need a social model of disability, according to which the harms of disability are social and structural, rather than a medical model of disability, according to which the harms of disability are medical and individual. For more, see Silvers, "People with Disabilities."
13. Simon Liedholm argues that we should experiment with interventions in wild animal suffering that can be both persistent, in that they can work in a wide range of contexts, and reversible, in that they can be reversed if they turn out to be net harmful. https://www.wildanimalinitiative.org/blog/persistence-and-reversibility-of-wild-animal-welfare-interventions.
14. Note that this moral and legal definition of "personhood" is different from a common metaphysical definition of "personhood," according to which personhood essentially involves the capacity for abstract language and reason. You can accept that many animals are persons in the moral and

legal sense whether or not you also accept that they are persons in this more demanding metaphysical sense.

15. For more on the Nonhuman Rights Project, see https://www.nonhumanrights.org/.
16. For more on the idea of nonhuman personhood and rights, see Randall S. Abate, "Legal Personhood for Wildlife: US and Foreign Domestic Judicial Developments," in *Climate Change and the Voiceless: Protecting Future Generations, Wildlife, and Natural Resources* (Cambridge: Cambridge University Press, 2019), 97–119; Kristin Andrews et al., *Chimpanzee Rights: the Philosophers' Brief* (New York: Routledge, 2018); and Mark Rowlands, *Can Animals Be Persons?* (New York: Oxford University Press, 2019).
17. HSI, "Mexico City Enacts One of the Most Animal-Friendly Constitutions in the Americas," Humane Society International, February 6, 2017, https://www.hsi.org/news-media/mexico-city-animal-friendly-constitution-article-020617/.
18. Andrews et al., *Chimpanzee Rights*, 55.
19. For more on the idea of a new kind of legal status for nonhuman animals, see Maneesha Deckha, *Animals as Legal Beings: Contesting Anthropocentric Legal Orders* (Toronto: University of Toronto Press, 2021).
20. For more on my view about this issue, see Jeff Sebo, "Should Chimpanzees Be Considered 'Persons'?," *The New York Times*, April 7, 2018, https://www.nytimes.com/2018/04/07/opinion/sunday/chimps-legal-personhood.html; Jeff Sebo, "We Treat Animals as Legal Objects. We Should Treat Them as Legal Subjects Instead," LPE Project, November 26, 2020, https://lpeproject.org/blog/we-treat-animals-as-legal-objects-we-should-treat-them-as-legal-subjects-instead/; and Andrews et al., *Chimpanzee Rights*. For more on legal recognition of sentience, see Charlotte E. Blattner, "The Recognition of Animal Sentience by the Law," *Journal of Animal Ethics* 9, no. 2 (2019): 121–136, https://doi.org/10.5406/janimalethics.9.2.0121.
21. For discussion about creating new kinds of legal and political status for a multispecies society, see Wayne Gabardi, *The Next Social Contract: Animals, the Anthropocene, and Biopolitics* (Philadelphia: Temple University Press, 2017). Additionally, see the articles in the September 2020 issue of the *Journal of Human Rights and the Environment* 2 (2020), https://www.elgaronline.com/view/journals/jhre/11-2/jhre.2020.11.issue-2.xml.
22. Sue Donaldson and Kymlicka, *Zoopolis*, Chapters 4 and 5.
23. Donaldson and Kymlicka, *Zoopolis*, Chapter 6.
24. Donaldson and Kymlicka, *Zoopolis*, Chapter 7.
25. I am focusing here on nonhuman representation in democratic systems, but, as I note elsewhere in this book, we also need to have a

broader conversation about whether democratic systems are best for the Anthropocene.

26. Donaldson and Kymlicka, *Zoopolis*; Eva Meijer, *When Animals Speak: Toward an Interspecies Democracy* (New York: New York University Press, 2019). See also Cochrane, *Sentientist Democracy*; and Kimberly K. Smith, "Representation," in *Governing Animals: Animal Welfare and the Liberal State* (New York: Oxford University Press, 2012), 99–125.
27. For a representative example of such research, see Tyler John and William MacAskill, "Longtermist Institutional Reform," in *The Long View*, ed. Natalie Cargill (London: FIRST, forthcoming), https://philarchive.org/archive/JOHLIRv1. For more detailed discussion about how to represent nonhuman animals in democratic systems, see Alasdair Cochrane, "Sentientist Democracy," in *Sentientist Politics* (New York: Oxford University Press, 2018).
28. John and MacAskill, "Longtermist Institutional Reform."
29. John and MacAskill, "Longtermist Institutional Reform."
30. Consider the recommendations from the UK Climate Assembly, which are stronger than what the government is currently able or willing to do, but much weaker than what the government ultimately needs to do: UK Climate Assembly, *The Path to Net Zero* (London: The House of Commons, 2020), https://www.climateassembly.uk/report/read/final-report.pdf.

Chapter 7

1. For a general discussion of the pros and cons of different methods for estimating well-being (including methods not discussed here), see Matthew D. Adler and Marc Fleurbaey, eds., *The Oxford Handbook of Well-being and Public Policy* (New York: Oxford University Press, 2016).
2. For discussion of CBAs in environmental policy, see United States Environmental Protection Agency, *Mortality Risk Valuation*, https://www.epa.gov/environmental-economics/mortality-risk-valuation#means. For discussion of CBAs in health policy, including discussion of this example, see Sarah Gonzalez and Kenny Malone, interview with Betsey Stevenson, NPR, podcast audio, April 15, 2020, https://www.npr.org/transcripts/835571843.
3. Franco Sassi, "Calculating QALYs, Comparing QALY and DALY Calculations," *Health Policy and Planning* 21, no. 5 (2006): 402–408, https://doi.org/10.1093/heapol/czl018.

4. For discussion of these and related concerns, see Greg Bognar, "Cost-Effectiveness Analysis and Disability Discrimination," in *The Oxford Handbook of Philosophy and Disability*, ed. David T. Wasserman and Adam Steven Cureton (New York: Oxford University Press, 2020), 653–668.
5. For discussion, see Matthew Adler, *Measuring Social Welfare* (New York: Oxford University Press, 2019); and Richard Cookson, Susan Griffin, Ole F. Norheim, and Anthony J. Culyer, *Distributional Cost-Effectiveness Analysis* (New York: Oxford University Press, 2020).
6. For a detailed discussion of including animals in impact assessments that considers historical and political factors more than I do here, see Blattner, "Animal Impact Assessments."
7. For more, see Dale Jamieson, "The Value of Nature," in *Ethics and the Environment: An Introduction* (New York: Cambridge University Press, 2008), 145–180.
8. For an accessible introduction to debates about well-being, see Ben Bradley, *Well-being* (Malden, MA: Polity Press, 2015). For an accessible introduction to debates about moral status, see Mary-Anne Warren, *Moral Status: Obligations to Persons and Other Living Things* (New York: Oxford University Press, 2002). Also, note that, while I am mostly using "welfare" and "well-being" interchangeably, some people make a distinction between these terms, such that welfare is a matter of how your life is going subjectively, and well-being is a matter of how your life is going more generally. This distinction is more important if you think that well-being depends on subjective as well as objective features of life than if you think that it depends only on subjective features of life.
9. While I find the idea of moral status valuable, others do not. For critiques, see Oscar Horta, "Why the Concept of Moral Status Should Be Abandoned," *Ethical Theory and Moral Practice* 20 (2017): 899–910; and Ben Sachs, "The Status of Moral Status," *Pacific Philosophical Quarterly* 92 (2011): 87–104.
10. Note that I am here using "sentience" to include two separate but related capacities, which people sometimes use "sentience" and "agency" to describe. While there might be individuals who can have one of these capacities but not the other, I will not explore this possibility here. For more, see Kagan, *How to Count Animals*, Chapter 1.
11. Kenneth E. Goodpaster, "On Being Morally Considerable," *The Journal of Philosophy* 75, no. 6 (1978): 308–325, https://doi.org/10.2307/2025709.
12. For more on the problem of other minds, see Peter Carruthers, "The Problem of Other Minds," in *The Nature of the Mind: An Introduction* (New York: Routledge, 2004), 6–35.

13. For more on the science and philosophy of animal minds, see Kristin Andrews, *The Animal Mind: An Introduction to the Philosophy of Animal Cognition* (New York: Routledge, 2015).
14. For discussion of animal consciousness, see the Cambridge Declaration of Consciousness (2012): http://worldanimal.net/images/stories/documents/Cambridge-Declaration-on-Consciousness.pdf. For an argument against ranking animals based on similarity with humans, see Iyan Offor, "Second Wave Animal Ethics and (Global) Animal Law: A View from the Margins," *Journal of Human Rights and the Environment* 11, no. 2 (2020): 268–296, https://doi.org/10.4337/jhre.2020.02.06.
15. For discussion of animal consciousness in general, see Luke Muehlhauser, "2017 Report on Consciousness and Moral Patienthood," Open Philanthropy, January 2018, https://www.openphilanthropy.org/2017-report-consciousness-and-moral-patienthood. For discussion of invertebrate consciousness in particular, see Jonathan Birch, "The Search for Invertebrate Consciousness," *Noûs*, August 30, 2020, https://doi.org/10.1111/nous.12351.
16. For more on plants, see Peter Wohlleben, *The Hidden Life of Trees: What They Feel, How They Communicate: Discoveries from a Secret World* (Vancouver, BC: Greystone Books, 2016). For more on insect colonies, see Bryce Huebner, "Minimal Minds," in *The Oxford Handbook of Animal Ethics*, ed. Tom L. Beauchamp and R. G. Frey (New York: Oxford University Press, 2011), 441–468. For more on artificial intelligences, see David J. Gunkel, *Robot Rights* (Cambridge, MA: The MIT Press, 2018).
17. For a defense of this kind of view, see Christine M. Korsgaard, *Fellow Creatures: Our Obligations to the Other Animals* (New York: Oxford University Press, 2018).
18. For a defense of this kind of view, see Kagan, *How to Count Animals, More or Less*.
19. For more on cross-species comparisons of welfare, see Mark Budolfson and Dean Spears, "Public Policy, Consequentialism, the Environment, and Non-Human Animals," in *The Oxford Handbook of Consequentialism*, ed. Douglas W. Portmore (New York: Oxford University Press, 2020), 592–615; Jason Schukraft, "How to Measure Capacity for Welfare and Moral Status," Rethink Priorities, June 1, 2020, https://static1.squarespace.com/static/5c64375df4e5314e7985012c/t/5f7638dee022086e88c68b7e/1601583327145/How+to+Measure+Capacity+Report+__+Rethink+Priorities.pdf; and Tatjana Višak, "Cross-Species Comparisons of Welfare," in *Ethical and Political Approaches to Nonhuman Animal Issues*, ed. A. Woodhall and

G. Garmendia da Trindade (Cham, Switzerland: Springer, 2017), https://doi.org/10.1007/978-3-319-54549-3.

20. For more on the psychology of speciesism, see Hal Herzog, *Some We Love, Some We Hate, Some We Eat: Why It's So Hard to Think Straight About Animals* (New York: HarperCollins, 2010). For more on how meat consumption affects attitudes about farmed animals, see Brock Bastian et al., "Don't Mind Meat? The Denial of Mind to Animals Used for Human Consumption," *Personality and Social Psychology Bulletin* 38, no. 2 (2011): 247–256, https://doi.org/10.1177/0146167211424291; Boyka Bratanova, Steve Loughnan, and Brock Bastian, "The Effect of Categorization as Food on the Perceived Moral Standing of Animals," *Appetite* 57, no. 1 (2011): 193–196, https://doi.org/10.1016/j.appet.2011.04.020; Jonas R. Kunst and Sigrid M. Hohle, "Meat Eaters by Dissociation: How We Present, Prepare and Talk about Meat Increases Willingness to Eat Meat by Reducing Empathy and Disgust," *Appetite* 105 (2016): 758–774, https://doi.org/10.1016/j.appet.2016.07.009; Steve Loughnan, Nick Haslam, and Brock Bastian, "The Role of Meat Consumption in the Denial of Moral Status and Mind to Meat Animals," *Appetite* 55, no. 1 (2010): 156–159, https://doi.org/10.1016/j.appet.2010.05.043; and Jared Piazza et al., "Rationalizing Meat Consumption. The 4Ns," *Appetite* 91 (2015): 114–128, https://doi.org/10.1016/j.appet.2015.04.011.
21. This section summarizes issues discussed in more detail in Jeff Sebo, "The Moral Problem of Other Minds," *The Harvard Review of Philosophy* 25 (2018): 51–70, https://doi.org/10.5840/harvardreview20185913.
22. Note that uncertainty about sentience is a kind of empirical uncertainty, whereas uncertainty about moral status is a kind of moral uncertainty, which introduces additional complications. For discussion of moral uncertainty, see William MacAskill, Krister Bykvist, and Toby Ord, *Moral Uncertainty* (Oxford: Oxford University Press, 2020).
23. For discussion of this issue in general terms, see Nick Beckstead and Teruji Thomas, *A Paradox for Tiny Probabilities and Enormous Values* (Oxford: Global Priorities Institute, 2020), https://globalprioritiesinstitute.org/nick-beckstead-and-teruji-thomas-a-paradox-for-tiny-probabilities-and-enormous-values/.
24. For more, see Muehlhauser, "2017 Report on Consciousness and Moral Patienthood." Muehlhauser attempts to assign probabilities of consciousness to different animals, but he also notes that, even after a systematic examination of the evidence, his attempts are highly uncertain.
25. For more on the debate about aggregation, see Larry S. Temkin, *Rethinking the Good: Moral Ideals and the Nature of Practical Reasoning* (New York: Oxford University Press, 2012).

26. As we have seen, another practical factor is extrinsic or instrumental value. For example, insofar as animals provide essential ecosystem services, killing them is extra bad. Insofar as our impact assessments can capture these indirect harms, there is no need to assign extra weight to these animals. But insofar as they do not, we might consider assigning extra weight to these animals as a proxy for these indirect harms.
27. Note that how much weight we assign to nonconsequentialist considerations might depend on the details of our nonconsequentialist commitments. For example, insofar as we think that we can permissibly violate rights for the sufficiently greater good, we can assign a finite amount of negative weight to rights violations. Insofar as we do not, we can assign an infinite amount of negative weight to rights violations.
28. For an example of this kind of argument, Baruch A Brody, "Defending Animal Research: An International Perspective," in *The Ethics of Animal Research: Exploring the Controversy*, ed. Jeremy R Garrett (Cambridge, MA: MIT Press, 2012), 53–66.
29. Another dimension to this question is: How can we determine the value of nonhuman lives in a way that tracks the intrinsic value of these lives rather than merely the instrumental value for humans? For discussion of anthropocentric and nonanthropocentric interpretations of these methods, see Budolfson and Spears, "Public Policy, Consequentialism, the Environment, and Nonhuman Animals."
30. Other dimensions to this question include the following: How long is a life-year for nonhuman animals? Is it 365 days for all animals, or can it be shorter for animals with shorter lifespans or faster cognitive "clock speeds" and longer for animals with longer lifespans or slower cognitive "clock speeds"? Also: How can we assess the impact of particular health conditions on quality of life for nonhuman animals? Presumably we cannot simply use survey data to make these assessments, so what can we do instead?

Chapter 8

1. For more on how to study animal minds effectively, see Andrews, *The Animal Mind.*
2. This relates to the idea that we need a social model of disability rather than an individual model of disability. For more, see Anita Silvers, "People with Disabilities," in *The Oxford Handbook of Practical Ethics*, ed. Hugh LaFollette (New York: Oxford University Press, 2003).

3. In this discussion, I will sometimes use "good life" as shorthand for "life worth living" and "bad life" as shorthand for "life not worth living." But I want to be clear that to call a life bad, or not worth living, is not to say that the person living that life is bad, or unworthy of life.
4. Martha Nussbaum, "Beyond 'Compassion and Humanity': Justice for Nonhuman Animals," in *Animal Rights: Current Debates and New Directions*, ed. Cass R. Sunstein and Martha C. Nussbaum (New York: Oxford University Press, 2004), 299–320.
5. There are other views about what makes life worth living as well, including views that hold that the value of a life for its subject depends on the distribution of well-being in that life, or on the narrative arc of that life. But focusing on these views will be enough for our purposes here, since it illustrates how our views about what makes life worth living can shape our views about the ethics of causing or allowing animals to live or die.
6. Some people think that the baseline for life to be worth starting might be different (in particular, higher) than the baseline for life, once started, to be worth continuing. For discussion, see David Benatar, *Better Never to Have Been: The Harm of Coming into Existence* (New York: Oxford University Press, 2006), Chapter 2.
7. M. Bateson and C. Poirier, "Can Biomarkers of Biological Age Be Used to Assess Cumulative Lifetime Experience?," *Animal Welfare* 28, no. 1 (2019): 41–56, https://doi.org/10.7120/09627286.28.1.041.
8. William Bradshaw, "Assessing Biomarkers of Ageing as Measures of Cumulative Animal Welfare," *EcoEvoRxiv*, 2019, https://doi.org/10.32942/osf.io/uj4mt.
9. Yew-Kwang Ng, "Towards Welfare Biology: Evolutionary Economics of Animal Consciousness and Suffering," *Biology & Philosophy* 10 (1995): 255–285, https://doi.org/10.1007/bf00852469.
10. Zach Groff and Yew-Kwang Ng, "Does Suffering Dominate Enjoyment in the Animal Kingdom? An Update to Welfare Biology," *Biology & Philosophy* 34, no. 4 (2019), https://doi.org/10.1007/s10539-019-9692-0.
11. These questions arise for many theories of well-being, but in my discussion here, I will assume that well-being is a function of happiness and suffering for the sake of simplicity.
12. If we accept a higher or lower baseline for life to be worth living, then we can make the same point by stopping when everyone has a life only minimally worth living according to this higher or lower baseline.
13. Derek Parfit, *Reasons and Persons* (New York: Oxford University Press, 1984), 381–390.

14. For similar discussion, see Kagan, *How to Count Animals, More or Less.*
15. Parfit, *Reasons and Persons*, 351–377.
16. I sincerely apologize for undermining the seriousness of this topic with two puns in a row.
17. Christopher J. Meacham, "Person-Affecting Views and Saturating Counterpart Relations," *Philosophical Studies* 158, no. 2 (2012): 257–287, https://doi.org/10.1007/s11098-012-9884-9.
18. Some people believe, for reasons related to non-identity, that creating a bad life harms its subjects, but that creating a good life does not benefit its subject. On this view, we would produce an asymmetry between creating more good lives and fewer bad lives via a different route: not by claiming that reducing harms is more important than increasing benefits, but rather by claiming that creating more good lives is not a case of increasing benefits in the first place. For more on creation and procreation asymmetries, see Melinda Roberts, "An Asymmetry in the Ethics of Procreation," *Philosophy Compass* 6, no. 11 (2011): 765–776.
19. The questions that we have been asking about well-being, moral status, and quality of life will of course be relevant here as well.

Chapter 9

1. "Fur Farms," Animal Ethics, accessed April 4, 2021, https://www.animal-ethics.org/animal-exploitation-section/animals-used-for-clothing-introduction/fur-farms/.
2. Zoë Schlanger, "The Mink Pandemic Is No Joke," *The Atlantic*, December 23, 2020, https://www.theatlantic.com/health/archive/2020/12/minks-pandemic/617476/.
3. World Health Organization, "SARS-CoV-2 Mink-Associated Variant Strain—Denmark," November 6, 2020, https://www.who.int/csr/don/06-november-2020-mink-associated-sars-cov2-denmark/en/.
4. World Health Organization, "SARS-CoV-2 Mink-Associated Variant Strain—Denmark," https://www.who.int/csr/don/06-november-2020-mink-associated-sars-cov2-denmark/en/.
5. Jack Guy, Antonia Mortensen, and Mick Krever, "Denmark Rolls Back Order for Mink Cull amid Legal Dispute," CNN, November 10, 2020, https://www.cnn.com/2020/11/10/europe/denmark-mink-cull-backtrack-scli-intl/index.html.

6. Guy, Mortenses, and Krever, "Denmark Rolls Back Order for Mink Cull amid Legal Dispute."
7. Jon Henley, "Decomposing Mink in Denmark 'May Have Contaminated groundwater,'" *The Guardian*, December 10, 2020, https://www.theguardian.com/world/2020/dec/10/decomposing-mink-in-denmark-may-have-contaminated-groundwater.
8. Erin Garcia de Jesus, "A Mink in Utah Is the First Known Case of the Coronavirus in a Wild Animal," December 16, 2020, https://www.sciencenews.org/article/covid-19-coronavirus-mink-utah-first-wild-animal-test-positive.
9. Guy, Mortenses, and Krever, "Denmark Rolls Back Order for Mink Cull amid Legal Dispute."
10. For a good article on the mink pandemic that inspired me to crystalize my thoughts about it, see Sigal Samuel, "Minks Are Transmitting Covid-19 to Humans. Don't Blame the Minks." *Vox*, November 13, 2020, https://www.vox.com/future-perfect/21561066/covid-19-mink-mutation-denmark-cull.
11. For a related discussion that COVID-19 should prompt us to improve our treatment of other animals in general, see Charlotte Blattner, "From Zoonosis to Zoopolis," *Derecho Animal* 11:4 (2020), 41–53.
12. This section summarizes an argument made in more detail in Jeff Sebo, "Kantianism for Humans, Utilitarianism for Nonhumans? Yes and No," unpublished manuscript.
13. For related discussion, see Saskia Stucki, "Animal Warfare Law and the Need for an Animal Law of Peace: A Comparative Reconstruction," *American Journal of Comparative Law*, forthcoming.
14. This section develops ideas initially discussed in John and Sebo, "Consequentialism and Animals." For more on the expanding circle in general, see Peter Singer, *The Expanding Circle: Ethics, Evolution, and Moral Progress* (Princeton, NJ: Princeton University Press, 2011).
15. For more on this possibility, see Goodpaster, "On Being Morally Considerable."
16. For more on this research, see Wohlleben, *The Hidden Life of Trees*.
17. For more on programs that can play games, see Jason Daley, "A.I. Mastered Backgammon, Chess and Go. Now It Takes on StarCraft II," *Smithsonian Magazine*, October 30, 2019, https://www.smithsonianmag.com/science-nature/deepmind-ai-mastered-backgammon-chess-game-go-now-takes-on-starcraft-ii-180973430/. For more on programs that can use language, see Kelsey Piper, "GPT-3, Explained: This New Language AI Is Uncanny, Funny—And a Big Deal," August 13, 2020, https://www.vox.com/future-perfect/21355768/gpt-3-ai-openai-turing-test-language.

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