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## Transformations of Stewardship in the Anthropocene

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For more than 12,000 years, the Earth System has been characterized by a relatively stable and hospitable state for humans and other mammals. This geological epoch is officially referred to as the Holocene. However, geoscientists such as Paul Crutzen, Will Steffen, and others argue that this situation has changed. The human imprint on the Earth System has become so significant, especially since the 1950s, that the effects of human activities (population growth, use of water and fossil fuels, consumption of fertilizers, etc.) are clearly discernible on the level of parameters important for the Earth System functioning, such as the concentration of greenhouse gases in the atmosphere, biodiversity, or the extension of rain forests, polar ice caps, and glaciers. Humanity has become a “global geophysical force” by now, and accordingly, the Earth has been transformed into a “planetary-scale social-ecological-geophysical system” with humanity as a major component of this system.<sup>1</sup> This is the situation of the Anthropocene, a new geological epoch, as Crutzen and others suggest.<sup>2</sup>

1. Steffen et al., “Global Change,” 740.

2. See, e.g., Crutzen and Stoermer, “The ‘Anthropocene’”; Crutzen, “Geology”; Steffen et al., “Global Change”; and Steffen et al., “Conceptual and Historical Perspectives.” The term Earth System refers to the interaction between atmosphere, hydrosphere,

Next to this empirical claim, the thesis that we live in the Anthropocene as a new geological epoch also includes the normative claim that humanity has specific responsibilities, which it did not have before. Currently living humans are not only the first generation with the power to influence the Earth System significantly, we also know how our activities impact the functioning of the Earth System. Thus, Steffen and others argue, humanity in the Anthropocene has the responsibility to ensure the continuance of the for-humans-hospitable conditions that existed naturally, as it were, in the Holocene, before human activities started to influence the Earth System on a global scale.<sup>3</sup> Several influential proponents of the notion of the Anthropocene, such as Steffen or Crutzen, consider this responsibility so essential for an adequate understanding of the current geological epoch that they identify it as the main characteristic of the third stage of the Anthropocene, which humanity entered at the beginning of the twenty-first century.<sup>4</sup> Interestingly, they describe this responsibility in terms of stewardship: humanity, they argue, can no longer exploit Earth System goods and services but rather must become “active planetary stewards of our own planetary life support system.”<sup>5</sup>

The concept of stewardship is used widely in literature about environmental ethics and climate change, and it is also influential in politics. It is, however, also an ambiguous concept, which is used in many different ways by philosophers, theologians, politicians, and so forth. In a general sense, stewardship is about responsible management of, or caring for something, such as land or cattle, on behalf of somebody else, usually the owner of the respective good. A steward “is appointed by and answerable to a higher authority and undertakes management in a way that reflects the wishes of the authority.”<sup>6</sup> This qualifies stewardship as a form of forward-looking responsibility; it requires people to take responsibility for what will happen in the future with the good that is entrusted to them by acting in the present with

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lithosphere, biosphere, and heliosphere. From our perspective as human beings, the Earth System functions well, and is “hospitable,” if it provides a number of goods, such as food, fresh water, energy sources, and services, such as soil formation, the regulation of the climate system through the uptake, storage of carbon by ecosystems, or the regulation of global temperature by, amongst others, large polar ice packs.

3. Steffen et al., “Global Change,” 749.

4. *Ibid.*, 749–55. Earlier stages are the beginning of the Anthropocene (which Steffen et al. identify in the time of the Industrial Revolution), and the Great Acceleration in the 1950s.

5. *Ibid.*, 748.

6. Worrell and Appleby, “Stewardship,” 265–66. See also Welchman, “Environmental Stewardship,” 299–302.

an eye to future consequences.<sup>7</sup> Such forward-looking responsibility implies a moral obligation to do or abstain from doing something. We do not simply say that somebody *has* a particular forward-looking responsibility, but we also say that he or she *is responsible for* bringing about a particular state (here: of the good that is entrusted to him or her), and that he or she should *take responsibility* for making sure that this state comes about in the future.

In this contribution, I want to explore and compare two different notions of stewardship. On the one hand, I address a Christian notion of stewardship sketched out mainly along the lines of the influential work of Christian ethicist Robin Attfield, who systematizes historical contributions into a contemporary notion of stewardship. On the other hand, I explore the notion of planetary stewardship in the Anthropocene as it is presented in the writings of influential proponents of the notion of the Anthropocene. In my analysis, I am especially interested in the transformation of stewardship and hence in the differences between the two notions of stewardship, such as their normative implications and their foundations. Moreover, I will investigate which assumptions concerning time are implicit in the different notions of stewardship. The issue of time plays a prominent role in current ethical debates about climate change in various respects. There is, of course, the central issue of *future* generations and, related to this, are questions such as whether or in which sense we can meaningfully speak of, for instance, the rights of future generations, even if they do not yet exist. Furthermore, time plays a role if we try to deal (descriptively as well as normatively) with *past* or *current* acts and activities, the consequences of which will affect the quality of the atmosphere or the temperature on earth in the *future*. A further question concerns the legitimacy of discounting future costs and benefits in intergenerational cost-benefit analyses.<sup>8</sup> These are important problems; in this chapter, however, I will address the issue of time from a different perspective. I want to explore whether and how assumptions concerning past and future, which underlie the different notions of stewardship, influence

7. Here I follow Carol Rovane's notion of forward-looking responsibility, see Rovane, "Forward-Looking Collective Responsibility," 22. For similar conceptions, see Smiley, "Future-Looking Collective Responsibility"; and Young, *Responsibility for Justice*. Forward-looking responsibility is distinct from backward-looking responsibility, which focuses on having caused an existing state of affairs. Both conceptions are related to each other (e.g., a person that fails in taking her forward-looking responsibility for watering the roses in the garden can be blamed for having the backward-looking responsibility for the roses' withering, if she has not watered them). However, the two forms of responsibility have different orientations and are related to different moral obligations.

8. Such problems are addressed in, amongst others, Gardiner, *Moral Storm*; and McKinnon, *Climate Change*.

the justification and scope of present moral obligations and responsibilities in the context of climate change. Such an approach can help us to identify and understand the differences between and possible problems of both a religious notion of stewardship and the notion of planetary stewardship in the Anthropocene.

## A CHRISTIAN NOTION OF STEWARDSHIP

Christianity has often been accused of providing the ideological basis of a purely instrumental attitude to the environment, of fostering the overexploitation of nature and, therefore, the ecological crisis. Lynn White's article, "The Historical Roots of Our Ecological Crisis," first published fifty years ago, has been especially influential in this respect, even though more recent historical research has shown that a more balanced view provides a much better understanding of the multiple roots of the ecological crisis.<sup>9</sup> White argues that Western Christianity has supported an exploitative attitude of humanity against nature, especially since the Middle Ages. Influenced by components of Christian theology, such as the de-sacralization of the cosmos and biblical views about the special status of humanity as image of God and the mandate to have dominion over animals and all the earth (*dominium terrae*), humans relate to nonhuman nature in a purely instrumental way.<sup>10</sup> And because Christianity has profoundly influenced Western culture, even "post-Christians" think of themselves as being "superior to nature, contemptuous of it, willing to use it for the slightest whim."<sup>11</sup> This attitude of dominion over nature and "despotism" is, according to White, one of the most important roots of the ecological crisis.

The stewardship tradition is a different strand of Christian teaching about the relationship between humanity and nonhuman nature. It is also based on biblical texts but understands theological tenets such as *imago Dei*, *dominium terrae*, and especially Gen 2:15, according to which God "took the man and put him into the Garden of Eden to work it [or: to till it] and take care of it [or: to keep it]," as requiring humanity to act as "a farm-manager,

9. See White, "Historical Roots." For discussions of White's article and its reception, see Barantzke and Lamberty-Zielinski, "Lynn White"; Hardmeier and Ott, *Natur-ethik*, 37–48; Jenkins, "After Lynn White."

10. The relevant biblical text is Gen 1:27–28: "So God created mankind in his own image, in the image of God he created them; male and female he created them. God blessed them and said to them, 'Be fruitful and increase in number; fill the earth and subdue it. Rule over the fish in the sea and the birds in the sky and over every living creature that moves on the ground.'"

11. White, "Historical Roots," 1206.

actively responsible as God's deputy for the care of the world."<sup>12</sup> This tradition understands God as the true owner of the earth and because of this, human "dealings with nature are subject to ethical constraints."<sup>13</sup> Moreover, and this is the core of Christian stewardship traditions, God has assigned to humanity the responsibility to care for creation and to "preserve it intact for our successors."<sup>14</sup> However, the religious notion of stewardship has not always been free from instrumental and anthropocentric attitudes of humanity towards nature. Seventeenth-century legal scholar Sir Matthew Hale, for example, understood humanity as steward and viceroy of God and interprets the position and task of humanity as being

invested with power, authority, right, dominion, trust and care, to correct and abridge the excesses and cruelties of the fiercer Animals, to give protection and defence to the mansuete and useful, to preserve the Species of diverse Vegetables, to improve them and others, to correct the redundance of unprofitable Vegetables, to preserve the face of the Earth in beauty, usefulness and fruitfulness.<sup>15</sup>

The reference to the "useful" and to vegetable species that should be preserved, on the one hand, and to "unprofitable" vegetation that should be curtailed, on the other, suggests that the primary beneficiary of such stewardship is humanity.

However, more recent interpretations construe the Christian notion of stewardship in a way that includes nonhuman animals, plants, or the whole world into the realm of stewardship without reference to their value for the well-being of humans, as J. Baird Callicott points out:

the Judeo-Christian stewardship environmental ethic provides for the intrinsic value of non-human natural entities and nature as a whole simply and directly. Either by the act of creation or by the secondary fiat—surveying the result . . . and declaring it

12. Passmore, *Man's Responsibility*, 28. For an overview of the current discussion in biblical exegesis about the position of humankind in creation and its relation to its environment, see Schellenberg, *Der Mensch*; and Hardmeier and Ott, *Naturethik*, 103–68. Islamic traditions include views that are similar to this notion of stewardship: Islam shares the belief that the world belongs to God and that humanity has to act as trustee of the Earth, as God's *khalifah* (caliph or vice-regent). For the implications of this belief for the relationship of human beings to nature and environmental ethics, see Al-Damkhi, "Environmental Ethics"; and Zaidi, "On the Ethics."

13. Attfield, *Global Environment*, 47.

14. Attfield, *Environmental Ethics*, 21.

15. Quoted in Black, *Dominion*, 56–57.

to be 'good'—God conferred intrinsic value on the world and all its creatures.<sup>16</sup>

Which presumptions concerning time are involved in this Christian notion of stewardship, and how do certain ideas about past, present, and future function in this concept? First, it is important to point out that the Christian notion of stewardship presumes that there will be a future that includes future generations of humans, and that this future is in a morally relevant sense dependent on human activities.<sup>17</sup> From a philosophical perspective, this assumption is no matter of course; concepts such as stewardship do not make sense under conditions of dystopic scenarios, such as currently living people no longer being able to procreate. Dystopia scenarios like this are portrayed in P.D. James's novel *The Children of Men* (or Alfonso Cuarón's film adaption from 2006) and in Lars van Trier's film *Melancholia* (2011), where a meteor is on course to imminently destroy the Earth. Stewardship also does not work on the basis of specific religious-apocalyptic conceptions of the future, such as the idea that the current generation will experience the Second Coming of Christ, who will restore all things to conformity with God's will. The assumption that human activities do not really matter for the future, since the future is, as it were, "secured by divine insurance" and the belief that God will always take care of his creation anyway, is also in tension with the Christian notion of stewardship, according to which God entrusts humanity with the responsibility to take care of God's creation. Furthermore, the Christian notion of stewardship is based on a specific relationship between God and humanity that is grounded in the presence of a very specific "past," namely God's act of creation, God's declaring creation to be good, and the entrustment of humans as stewards of creation.

More specifically, the time that is present in the present is not the past in an "ordinary," historical time, but a "higher time" in the sense that Charles Taylor describes.<sup>18</sup> Such higher time is constitutive for the self-understanding of believers and for their understanding of the world, since

16. Callicott, *Beyond the Land Ethic*, 192. For a more elaborate theological explanation of such "divinely bestowed worth," see Wolterstorff, *Justice*, 357–60.

17. For the importance of this assumption in general, especially for the practice of valuing, see Scheffler, *Death and the Afterlife*. It could be argued that particular religious notions of stewardship can do without references to future generations, since they base responsibility to care for creation on the basis of the value bestowed upon creation by God. The famous quote that is ascribed to Martin Luther—"Even if I knew that tomorrow the world would go to pieces, I would still plant my apple tree"—could be understood on the basis of this assumption. However, this is not in line with historical and ethical research of religious notions of stewardship.

18. For the following, see Taylor, *A Secular Age*, 55.

events belonging to higher time punctuate, reorder, and give meaning to “ordinary” time that is, without such a relation to higher time, homogeneous in the sense that “one thing happens after another, and when something is past, it’s past.”<sup>19</sup> “Higher time,” however, is not past in the sense of a time that is no longer present; rather, there is an imbrication of ordinary time in higher time that results in a transformation of the understanding of the world, as Taylor points out. For example, a reference to higher time can transform a “universe” in the secular sense into a purposive and teleological “cosmos” with a specific normative order.<sup>20</sup> This idea of an imbrication of ordinary time in higher time enables us to better understand the grounds of the responsibility that is included in the Christian notion of stewardship; creation and the assignment of stewardship to humanity belongs to higher time, hence these “events” are not *part of* ordinary history. But still, for believers they are *relevant for* and *effective in* ordinary time because they are constitutive for their understanding of themselves and the world they live in.<sup>21</sup> Accordingly, future generations of humans, and to a certain extent other species, are beneficiaries of stewardship, but the normative validity of the Christian notion of stewardship is independent of, for instance, the rights of future generations. Rather, it is a direct obligation to God and as steward humans are answerable to God and not primarily to current human beings, society, or members of future generations.

Next to the importance of specific higher time is another feature of the temporal structure of the Christian notion of stewardship that is relevant for my analysis of the transformation of stewardship in the Anthropocene: the relation of people (and hence stewards) to past, present, and future in view of their relationship to nature remains, to a large extent, structurally continuous throughout generations. This relationship can be described analogously to the process of passing on and inheriting family property that is understood to define part of the family as such, for instance a family-owned farm or brewery. A person receives the family property from her ancestors and with it the responsibility to care for the property and to pass it on to future generations. The concrete act of caring for the farm, for example, requires different activities and techniques in different historical circumstances; the timespan and tempo that has to be taken into account and dealt with when people make decisions affecting the future of the farm (and hence the family) is different now from the situation, say, 300 years ago. The structure of

19. Ibid.

20. See *ibid.*, 59–60.

21. *Ibid.*, 55.

the activity, however, and its reference to past, present, and future remains the same.

## PLANETARY STEWARDSHIP IN THE ANTHROPOCENE

The concept of planetary stewardship in the Anthropocene is, so far, conceptually less developed than the Christian notion of stewardship, and most of the normative assumptions on which the concept of planetary stewardship in the Anthropocene rests are hardly reflected on in the writings of scientists who understand planetary stewardship as part and parcel of the concept of the Anthropocene. As I pointed out at the beginning of this chapter, planetary stewardship in the Anthropocene is described by proponents of the notion of the Anthropocene as the responsibility of humanity to ensure the functioning of the Earth System. This is a responsibility specifically in a context in which human activities are on such a scale that they are capable of significantly impacting the Earth System, understood as a planetary-scale social-ecological-geophysical system. This general description corresponds with important aspects of the Christian notion of stewardship that I described above.

On closer examination, however, one also can identify important differences. First of all, and most evidently, planetary stewardship in the Anthropocene is independent of references to God, an act of creation, or the assumption of a specific intrinsic value that God bestowed upon the Earth. Rather, it is based on the normative assumption that currently living humans have certain moral obligations to future generations (see below) and on the empirical facts that current and future human beings are dependent on a functioning Earth System and that human activities influence the Earth System significantly. Accordingly, planetary stewardship in the Anthropocene approaches nonhuman nature from a more instrumental perspective than does the Christian notion of stewardship.

Another feature of planetary stewardship in the Anthropocene results from a profound transformation of the relationship between humanity and nonhuman nature since the Great Acceleration. Crutzen and Christoph Schwägerl, for example, argue that human activities no longer can be adequately described in terms of influencing or disturbing natural ecosystems. Rather, one should speak of human systems with natural ecosystems embedded within them; the “long held barriers between nature and culture are breaking down. It’s no longer us against ‘Nature.’ Instead, it’s we who decide

what nature is and what it will be.”<sup>22</sup> This transformation of the relationship between humanity and nature, human culture and the Earth System, prepares dimensions of planetary stewardship in the Anthropocene that go beyond an approach that is conservative, in the sense that it emphasizes the need to develop a more modest lifestyle (especially in wealthy societies), to reduce emissions of greenhouse gases, and so forth. Such conservative “Aidosean” demands, though, are also included in the notion of planetary stewardship in the Anthropocene.<sup>23</sup>

However, Steffen and others argue, this may not be sufficient to ensure a functioning Earth System for future generations. The scale and speed of current challenges (the increase of greenhouse gases in the atmosphere, melting of glaciers and polar ice caps, etc.) suggest that such conservative strategies “risk the collapse of large-segments of the human population or of globalized contemporary society as whole.”<sup>24</sup> Because of this, proponents of planetary stewardship in the Anthropocene suggest considering “more transformational approaches,” such as geoengineering, which is the deliberate manipulation of Earth System processes by technological means, e.g., solar radiation management.<sup>25</sup> This dimension introduces a “Promethean” component into the concept of planetary stewardship in the Anthropocene and makes it more “technophilic and planetary-managerialist in orientation.”<sup>26</sup> A similar approach is suggested in philosophical discourse by Peter Sloterdijk, who argues that humanity influences the Earth to such a degree that a continuation of current lifestyles in the future appears impossible. Because of this, Sloterdijk argues, to call for an ethics of global moderation similar to, for instance, the (conservative) Christian notion of stewardship (he calls such approaches “ecological Puritanism” and “ecological Calvinism”) is understandable but also futile. Human beings will always refuse to give up their resource-intensive lifestyles simply because a tendency towards luxury is an inherent part of the human condition.<sup>27</sup> Instead, Sloterdijk proposes to go beyond a “monadological” interpretation of the earth and to put time, effort, and money into the development of new

22. Crutzen and Schwägerl, “Living in the Anthropocene.” Crutzen and Schwägerl refer to geographers Erle Ellis and Navin Ramankutty here. See also Preston, “End of Nature”; and Baumgartner, “Naturvorstellungen im Anthropozän.”

23. I borrow the qualifications “Aidosean” and “Promethean” from Jeremy Baskin (see Baskin, “Paradigm,” 14). “Aidosean” refers to Aidos, the Greek goddess of shame, modesty, and humility, “Promethean” to the Greek mythological figure Prometheus.

24. Steffen et al., “Global Change,” 752.

25. See *ibid.*; and Steffen et al., “Conceptual and Historical Perspectives,” 858–59.

26. Baskin, “Paradigm,” 14.

27. Sloterdijk, “Wie groß.”

technologies that will hopefully “produce effects that would be equivalent to the Earth’s multiplication”<sup>28</sup> and enhance the resilience of the Earth. Although Sloterdijk does not refer to the concept of planetary stewardship, the orientation of his proposal can be interpreted as an extreme version of a Promethean understanding of planetary stewardship in the Anthropocene due to the important components the two share. Steffen, Crutzen, and others are much more cautious in their considerations about a possible integration of interventions like geoengineering in planetary stewardship in the Anthropocene.

As for presumptions concerning time, this notion of stewardship shares with the Christian notion of stewardship discussed above the assumption that the future is, in a morally relevant sense, dependent on human acts. However, unlike the case of the Christian notion of stewardship, specific ideas concerning higher time are not relevant for planetary stewardship in the Anthropocene. Rather, the validity of the obligations that result from planetary stewardship in the Anthropocene is grounded in the future, as it were, namely in the rights of future generations, such as their right to a hospitable environment and a functioning Earth System. One could expect that the past would also be normatively important for the foundation of planetary stewardship in the Anthropocene. The present imperative to act as planetary stewards is a result of human activities in the past, which have brought us to a situation in which we urgently and actively have to ensure a functioning Earth System. This includes, for example, a hospitable climate for future generations. However, although it is undoubtedly true that the current climate change crisis is a result of human activities in the past, this is actually not decisive for the normative validity of planetary stewardship in the Anthropocene because the obligation to act as planetary steward in the Anthropocene does not result from the fact that the challenges of the Anthropocene are caused by human activities in the past. Even if, for instance, global warming had not been caused by human activities, humankind would still have the responsibility to ensure a hospitable environment for members of future generations simply because future human beings have a right to a hospitable environment and current humanity has the knowledge and power necessary to protect, destroy, or create a hospitable environment for future generations.

Accordingly, planetary stewardship in the Anthropocene includes direct obligations to other human beings and members of future generations. The temporal structure of the obligations that are part of planetary stewardship in the Anthropocene is also different from that of the Christian

28. Hout, “Homeotechnological Turn,” 428.

notion. Much like the Christian steward, the planetary steward in the Anthropocene receives the Earth System in a particular state, but, at least in the case of Promethean versions, the continuity of the heritage (e.g., farm) model does not capture the order of times included in the notion of planetary stewardship in the Anthropocene. By becoming a global geophysical force, humanity has pushed the planet into an “exceptional time” in which humanity finds itself in the unprecedented situation that decisions and activities of currently living humans can determine the further development of the Earth System on the whole and hence the fate of future humanity.<sup>29</sup> The present is the time in which two things come together: on the one hand, the impact of human activities on the Earth System has become so significant that the Earth has been transformed into a planetary-scale social-ecological-geophysical system, and, on the other hand, humans have become aware of their responsibility to ensure the functioning of the Earth System. This makes the beginning of the third stage of the Anthropocene a *kairotic* moment, where the responsibility of planetary stewardship requires us, according to proponents of a Promethean notion of planetary stewardship, to take the future of the Earth System into our own hands and to shape and engineer it with technological means. Otherwise, it might be too late to ensure a hospitable environment for members of future generations. Thereby, our future expectations of the world in the (distant) future are not bound to be simply prolongations of the present situation into the future. Rather, geoscientist Erle C. Ellis argues, the “only limits to creating a planet that future generations will be proud of are our imaginations and our social systems. In moving toward a better Anthropocene, the environment will be what we make it.”<sup>30</sup> This indicates especially that the Promethean versions of planetary stewardship in the Anthropocene are based on expectations of the future that are to a large extent techno-utopian hopes and promises rather than on proven and tested data or strategies.

## TRANSFORMATIONS OF STEWARDSHIP IN THE ANTHROPOCENE

To sum up the exploration of these two notions of stewardship, we can provide the following definitions. A Christian understanding of stewardship can be defined as the God-given mandate of humanity to preserve the Earth for the future. The obligations of humanity in view of creation are direct obligations to God, who is understood as creator and owner of the Earth.

29. On exceptional time, see Baskin, “Paradigm,” 12.

30. Ellis, “Overpopulation.”

Accordingly, humanity's responsibility as steward is grounded in higher time, which is constitutive for the self-understanding of humans and their relation to the world. This Christian notion of stewardship has an essentially conservative orientation in the sense that the steward is responsible for the preservation of the good entrusted to him or her. In other words, the steward has to take care that the Earth is not destroyed or damaged, and that it functions as a living environment for (future) plants, animals, and humans alike.<sup>31</sup>

Planetary stewardship in the Anthropocene, on the other hand, can be understood as the responsibility of current humanity to ensure a functioning Earth System for future generations of humanity. The obligations that are part of planetary stewardship in the Anthropocene are grounded in future generations of humanity and their rights to a hospitable environment. In a Promethean framework, planetary stewardship in the Anthropocene includes the possibility or even the obligation to purposefully and deliberately shape the Earth System by technological means. Such a framework is highly influenced by techno-utopian ideals about the future. Because of this latter aspect, Promethean frameworks of planetary stewardship in the Anthropocene are vulnerable to the objection that they are based on assumptions that are mere promises. In a sense, proponents of especially Promethean forms of planetary stewardship in the Anthropocene seem to resemble those religious believers who reject the idea of human responsibility for nonhuman nature because they argue God will intervene in the future, if necessary, to save the world from destruction (see above). The idea(s) of the future of such believers, as well as of "Promethean planetary stewards in the Anthropocene," seems to depend on a promise of salvation, the reliability of which can be neither supported nor falsified by means that are independent of controversial assumptions about the future.

A further dimension of both notions of stewardship concerns the questions: who, exactly, has the responsibility to act as steward, and, related to this, what type of forward-looking responsibility is stewardship? At first sight it seems possible to understand both notions of stewardship as an individual responsibility of every person. Whether stewardship is grounded in a divine mandate to humanity or in the rights of future generations, in both cases stewardship could be understood as the responsibility of all persons, since each person is a member of humanity and each person's actions

31. John Passmore identifies a second strand in the stewardship tradition that construes the responsibility of humankind in terms of perfecting nature by cooperating with it (Passmore, *Man's Responsibility*, 32). I do not go into this here because this tradition is much less influential in environmental ethics and climate change ethics than the notion I described as a Christian understanding of stewardship.

influence the state of the Earth System in one way or another. However, such an understanding of stewardship as the individual, forward-looking responsibility of every person does not go well with important components of both notions of stewardship described above. The object of both the religious notion of stewardship and the notion of planetary stewardship in the Anthropocene is not only the surrounding environment, with which a person interacts more or less immediately, but also creation or the Earth System as a whole, respectively. Although each person can and actually does participate in processes that influence the functioning of the Earth System, it is impossible for every individual to be fully responsible for preserving or building, for example, a climate that is hospitable for future generations. In light of this, it is more plausible to understand stewardship as the shared forward-looking responsibility of all people; it is a responsibility that each person bears but does not bear alone.<sup>32</sup> Accordingly, stewardship as shared, forward-looking responsibility means that each person shares with all others the obligation to care for and protect the Earth System. The specific share that one has in this general obligation, however, is not determined by the concept of stewardship as such. This has been criticized by Jeremy Baskin who argues that the concept of the Anthropocene does not take into account that people from different societies have a different share of the (backward-looking) responsibility for climate change and other ecological devastations. Instead, it universalizes and normalizes “a small portion of humanity as ‘the human of the Anthropocene.’”<sup>33</sup>

It is true that the considerations of Steffen, Crutzen, and other proponents of planetary stewardship in the Anthropocene are not elaborate enough to answer Baskin’s criticism, and the same applies to the Christian notion of stewardship in the general form described in this chapter. Neither concept of stewardship takes into consideration the unequal backward-looking responsibilities for the causation of, among others, the climate change crisis when defining the forward-looking responsibility of humanity for ensuring a functioning Earth System for future generations. It is, however, possible to accommodate Baskin’s criticism, which brings me to a final observation. Both the Christian notion of stewardship and the notion of planetary stewardship in the Anthropocene, but especially the latter, can be understood in a way that goes beyond an understanding of shared responsibility. For if the responsibility to ensure a functioning Earth System for future generations implies the use of “transformational approaches” (geoengineering,

32. Young, *Responsibility for Justice*, 109–10.

33. Baskin, “Paradigm,” 15. Baskin addresses this criticism to the broader concept of the Anthropocene, but it is equally important for the notion of planetary stewardship in the Anthropocene.

the multiplication of the carrying capacity and resilience of the Earth by technological means, etc.), as proposed by various proponents of planetary stewardship in the Anthropocene, then such stewardship can be restricted neither to individual responsibility nor to shared responsibility, since only large and powerful groups or institutions (states, companies, international organizations, etc.) could exercise such stewardship.

This suggests an understanding of planetary stewardship in the Anthropocene as a shared responsibility *and* as a collective responsibility of humanity in general. Unlike shared responsibility, collective responsibility presupposes the formation of a group agent in the sense of “a group of human beings [that] functions as an individual agent in its own right, with its own point of view from which to deliberate and act.”<sup>34</sup> This results in an understanding of planetary stewardship in the Anthropocene that includes an imperative for global humanity to develop a cosmopolitan understanding as group agent and to establish just and robust international institutions. It is on the level of international institutions that one can take into account the differences in backward-looking responsibility for the causation of global environmental crises in the development of effective and fair instruments and strategies to achieve the central goal of both notions of stewardship that have been addressed in this contribution: the protection of an environment that is hospitable both to the entirety of contemporary humanity and to future generations of humanity.<sup>35</sup>

34. Rovane, “Forward-Looking Collective Responsibility,” 16. Rovane illustrates this by means of the example of a philosophy department that decides on degree requirements for the PhD in philosophy. When the members of the department take up the task of settling the requirements, “they recognize that it calls for a reasoned position . . . There is only one way in which such a position can be arrived at. The faculty must cease to argue from their separate points of view. What they must do instead is gather their various thoughts into a common pool of deliberate considerations . . . If the department were to proceed in this way, it would be reasoning as one.” *Ibid.*, 17–18.

35. Rovane makes a similar point to illustrate (not defend) possible implications of her considerations about forward-looking collective responsibility by pointing out the possible formation of group agents, modeled on the Manhattan Project, with the aim of developing technologies that would benefit the climate. *Ibid.*, 24.