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# The obligation to long-term governance: a philosophical analysis

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## Abstract

**Background** Many of the problems currently facing our societies are long-term. Long-term problems are complex, often large-scale, and may require considerable planning and resources to avert undesirable outcomes in the (far) future. Consider issues such as climate change, nuclear waste disposal, and the sustainable management of ecosystems. The ability of a society to adequately address the most relevant problems depends on appropriate long-term governance, i.e., strategic, consistent, and coherent governance over an extended period of time.

**Main text** Serious obstacles are inherent in long-term governance. These include short election cycles, intergenerational trade-offs, and the uncertainties involved in long-term decision-making. Liberal democracies appear to encounter difficulties in providing adequate responses to pertinent long-term issues, such as climate change, due to the institutions' current design, which primarily focuses on safeguarding the interests of the present generation.

**Conclusions** This paper introduces long-term governance as a distinct philosophical topic by defining it in relation to a novel perspective on long-term challenges. The paper defends an obligation to engage in long-term governance based on the basic rights of those who do not yet vote. This includes, in particular, an obligation to engage in research into long-term governance institutions.

**Keywords** Long-term governance, Future generations, Feasibility, Institutions, Justice, Philosophy, Climate change

## Background

Our societies currently face enormous challenges. Think of rapidly declining biodiversity, the radioactive waste from nuclear power plants that we must deal with, or climate change. These are instances of what we call long-term problems. Long-term problems are complex issues with foreseeable, avoidable, and negative outcomes that will materialize in the distant future. Addressing them adequately requires strategic, consistent, and coherent collective action; what we call long-term governance.

However, liberal democratic societies are ill-equipped to deal with long-term problems since lawmakers typically represent the interests of those who can currently vote, but not the interests of those who are affected by long-term problems in the distant future. Thus, we claim that there is often a conflict between long-term governance and the sovereignty of voters.

The aim of this paper is two-fold. First, we seek to define long-term governance and explain why it is a philosophical topic in its own right with unique challenges. To this end we develop a definition of long-term problems and discuss the inherent conflict in liberal democracies between long-term governance and the sovereignty of voters. The second aim is to defend an obligation to long-term governance as well as an obligation to conduct research and promote corresponding long-term

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governance institutions. We ground these obligations on the basic rights of non-represented persons and explain how they can be weighed against the generational sovereignty of the current generation.<sup>1</sup>

An important limitation of our project needs to be mentioned at the outset: We do not seek to propose solutions to long-term problems, nor do we defend particular long-term governance institutions. Doing so would require empirical investigation and interdisciplinary efforts, given the scale and complexity of long-term problems. Instead, we defend the need for research into, and efforts towards, long-term governance.

The paper is organized as follows. In the first section, we clarify our understanding of long-term governance, starting from the general concept of governance. We proceed by defining long-term governance with reference to the long-term problems it is meant to tackle. Here, we distinguish necessary and accidental features of long-term problems. In the following section, “A conditional obligation to long-term governance”, we argue that basic rights are the normative foundation of the obligation to long-term governance. We then discuss the conflict between the commitment of democracies to the interests of current voters and institutions of long-term governance which are designed to protect the interests of those who do not (yet) vote, in terms of the legitimacy of long-term governance. In the next section, “Obstacles to successful long-term governance”, we discuss the case of climate change. The section, “A conditional obligation to develop and establish long-term governance institutions and corresponding research” broadens the discussion and highlights practical implications. In the section, “Forms of long-term governance research”, we sketch directions for philosophical as well as inter- and transdisciplinary research. Finally, we provide a brief conclusion.

## Main text

### Basic elements of long-term governance

#### Governance

To understand what long-term governance is, it is helpful to start with a definition of governance and expand from there. Francis Fukuyama defines “[G]overnance as a government’s ability to make and enforce rules, and to deliver services” [1, p. 350]. Let us consider these aspects in turn.

First, Fukuyama defines governance as the “government’s ability” to do certain things. Governance, in this understanding, is something that the government

provides. This definition is not without alternatives. Kooimann, for example, understands (social-political) governance more broadly, as “arrangements in which public as well as private actors aim at solving societal problems” [2, p. 139]. Our concern in this paper is with governance through the government. Thus, when we speak of a duty to engage in long-term governance, we mean a duty owed by the state, not e.g., by individuals or private associations. However, this limitation does not preclude long-term governance by means of international institutions, since in the international political sphere “[...] it is states that shape agendas and make agreements<sup>2</sup>” [3, p. 171].

The second part of Fukuyama’s definition of governance lists the three activities that constitute governance: To make rules, to enforce them, and to deliver services. In liberal democracies, making rules lies primarily with legislative bodies that are democratically elected or legitimated. Depending on the type of institution, different agents may be in charge of enforcing these rules and delivering services, or ensuring that they are delivered. The function of making and enforcing rules and providing services, or, in other words, the function of governance is to solve problems that citizens face and cannot solve alone.

This paper focuses on governance through institutions. In the context of long-term governance, what we mean by institutions includes government bodies [such as environmental protection agencies, economic incentives such as subsidies and taxes on goods and behaviors, command and control-style measures such as efficiency standards, international contracts, ombudspersons for future generations, and so on. As this list indicates, we work with a narrow understanding of governance institutions limited to public institutions that are established through governmental action. Private institutions, such as local rules established by a community, fall outside of this scope.<sup>3</sup>

### Long-term governance and long-term problems

Long-term governance is the strategic, consistent and coherent governance of long-term problems over an extended period of time (e.g., the timespan which corresponds with the long-term problem, see below). In this section, we discuss what makes a societal issue a long-term problem and concurrently bring out the associated challenges of long-term governance. For the present purpose, we define long-term problems as being very undesirable yet foreseeable today (i.e., they can be

<sup>1</sup> We limit our discussion to liberal democracies. This is not to say that other types of governments do not struggle with long-term governance. Their challenges, however, are different from those faced by liberal democracies, at least in part. This is especially so when it comes to the challenge from generational sovereignty that we discuss in the context of P4 in the section, “A conditional obligation to long-term governance”.

<sup>2</sup> Supranational structures, such as the European Union, could be interpreted as having a (quasi-) government (e.g., the European Commission) and thus also be included.

<sup>3</sup> This is in contrast to, for example, Jupille and Caporaso, who present what they call a minimal account of institutions that defines them as “intertemporal social arrangements that shape human relations in support of particular values” [4, p. 3].<sup>5</sup>

scientifically assigned a probability, or they occur in a plausible scenario), but will manifest only or mainly after a considerable timespan (i.e., around 20 years or more).<sup>4</sup> In this section, we expand on these elements and introduce further accidental features that long-term problems may exhibit.

The key characteristic of long-term problems is, as the name suggests, that they involve long timeframes. This can, however, mean different things. First, it may mean that the issue in question involves a long time between cause and effect. Many environmental pollution problems are of this sort. Lead pollution, for example, takes considerable time to move through food chains and build up harmful concentrations in larger carnivores and humans. Climate change involves many slow-onset processes due to the inertia of the climate system from slow glacier melting processes and the absorption of thermic energy in the oceans, among other things [3].

Many, but not all, issues that involve lags between cause and effect are at the same time cumulative, in the sense that many agents collectively create the problem with their individually low-impact actions. People's individual GHG emissions, for example, are negligible. Taken together, however, they cause dangerous climate change. Relatedly, problems like climate change and overfishing involve tipping points where the problem changes qualitatively at some point. Fisheries, for example, may disappear altogether if too few fish are left for the population to bounce back.

Some long-term problems have been described as creeping problems or crises [6]. A creeping problem evolves slowly over time and is "subject to varying degrees of political and/or societal attention" [6, p. 122]. In other words, the problem is known to exist but not addressed sufficiently. Often, a creeping problem will flare up in limited ways that "foreshadow" the severity of the problem if left unchecked. One example of a creeping problem is antibiotics resistance, which builds up slowly over time, is discussed intermittently and will potentially undermine the means to treat various diseases in the future. Many such creeping problems are "insufficiently addressed by authorities" [6, p. 122].<sup>5</sup>

Another example of a creeping problem is deteriorating infrastructure. We know that, for example, roads and bridges need maintenance that is deferred due to present day budget constraints, with the result that in the future large parts of the transportation infrastructure may

become dangerous or unusable, and require expensive replacement or repair that may be beyond our means. However, not all long-term issues are creeping problems, and thus this feature is not part of our core definition of long-term problems. The storage of spent nuclear fuel, for example, is mostly not a creeping problem.<sup>6</sup>

Some problems involve long timeframes in the sense that fixing or managing them requires continuous efforts. Examples include nuclear waste storage that, at least with some proposals, requires permanent efforts to be successful. Other examples are rewilding and renaturalization projects that seek, for example, to convert land that has been used industrially or agriculturally to natural habitats for plants and animals. Such efforts may take decades to be successful.

Since long-term problems involve long timeframes, "[t]he realization of long-term policy goals extends well beyond electoral cycles and management terms, even beyond a generation of civil servants" [7, p. 278]. This makes the implementation of long-term governance difficult for two reasons. First, it is up to the current constituents and their representatives to act in the interests of non-represented persons who "do not vote; [...] have no political or financial power; [...] [and] cannot challenge our decisions" as the Brundtland report stated [8, para. 25]. Second, subsequent generations of policymakers and public servants need to share in long-term governance efforts since they are in a position to thwart our efforts easily.

A further feature of many long-term issues is that they often involve uncertainties regarding the precise shape of the problem that is to be tackled, as the climate change case shows. Additional uncertainties concern the efficacy of proposed solutions to long-term problems that may, for example, involve untested technologies. This problem is, again, evident in the case of climate change, where some of the negative emission technologies that are now considered necessary to limit climate change to below 2 °C have not yet been developed or are not sufficiently developed to be economically viable. Finally, there may also be moral uncertainty, meaning that we do not know what is morally required of us vis-à-vis future people, or that people disagree about what is required of us.

Another typical feature of long-term problems is their scope and complexity. Long-term governance is usually understood as responding to societal challenges with "[...] policy strategies that seek to change radically key societal structures" [7, p. 278]. In this understanding,

<sup>4</sup> Insofar as a missed chance with regard to the improvement of living conditions can be understood as a very undesirable outcome of action (or non-action), we have also covered benefit-seeking or the improvement of living conditions as long-term issues or problems [see ].

<sup>5</sup> So-called chronic problems, like poverty or crime, are not a class of long-term problems, since they do not manifest only or mainly after a considerable timespan. We thank an anonymous reviewer for pressing us to clarify.

<sup>6</sup> It may be argued that it is a creeping problem in the sense that the problem gets worse the longer we wait since storing spent fuel in temporary, above-ground sites e.g., increases the risk of leaking into the environment. However, it seems to us that the core problem is rather how to safely store spent fuel for the required tens of thousands of years and not to get it into storage as quickly as possible.

governance is necessarily long-term because of the radical nature of the change that requires considerable time to be implemented. This, however, is not a necessary feature of long-term governance issues. Re-naturalization projects, such as those undertaken in former open-cast mining, may involve long timeframes and continuous efforts to succeed but do not require radical changes to societal structures. However, long-term problems become especially pressing if they do require such changes.

Finally, long-term governance aimed at fixing problems in the future will often require sacrifices from one generation for the benefit of another. This poses special sub-problems. The first is a problem of motivation, where the current generation needs to be convinced to make sacrifices for a generation that will, in principle, not be able to reciprocate [9]. The current generation may thus be reluctant to take on these burdens if there is nothing to be gained for them. The second sub-problem is philosophical and concerns the existence of intergenerational duties and their extent. For this paper, we will assume that future people have rights and that these come with associated duties for the current generation. However, this does not mean that the state has the same duties towards future generations that it has towards current generations. We discuss this problem in the next section. As with some other features of long-term problems, this feature is not essential. In many cases, the negative consequences of letting a long-term problem fester will already affect the current generation to the extent that they have reasons to solve it for their own sake. In those cases in which they do not, we argue that they still have an obligation to long-term governance.

To summarize, we define long-term problems as very undesirable yet avoidable outcomes of human action or natural courses that are foreseeable today (i.e., they can be scientifically assigned a probability, or they occur in a plausible scenario) but will manifest only or mainly after a considerable timespan (i.e., around 20 years or more). Long-term problems have necessary and accidental features. The necessary features include the long timeframes involved, the extension beyond electoral cycles, the undesirable results and the fact that they are avoidable. The accidental features include the lag between cause and effect, the large scope and complexity, their creeping nature, and the fact that they require continuous efforts, radical changes to society, and sacrifices from one generation to another.

#### **A conditional obligation to long-term governance**

Not all long-term problems need to be solved by long-term governance. Consider the case of deteriorating transport infrastructure: According to our definition, this could be regarded as a long-term problem since it is an

undesirable yet avoidable outcome of human action that is foreseeable today and that will manifest after a considerable timespan: Bridges will need to be closed, highways can only be used at reduced speeds, and so on. However, fixing this problem does not necessarily require what we defined as long-term governance, i.e., strategic, consistent and coherent governance over an extended period of time. If we wanted to, we could let infrastructure deteriorate and then invest a lot of money in a short period of time to fix or replace it. It would, of course, be cheaper (and safer) to institutionalize regular maintenance to keep the infrastructure intact. But many long-term problems cannot be postponed and fixed with short-term measures, since there are societal, technological, and physical limits to how fast something can be fixed.<sup>7</sup> Climate change, for example, requires radical changes to many aspects of our socio-economic system, involves irreversible tipping points, and requires considerable time to research and implement solutions. Postponement does not simply make the problem more expensive to solve, but impossible to solve. Problems of this sort require long-term governance.

Some long-term problems can only be solved with long-term governance. However, this does not imply that we are *morally required* to solve them. In this section, we defend a moral obligation to long-term governance, i.e., an obligation to protect the interests of those who do not yet vote that curtails the sovereignty of the current generation to act in its own interests. In the section, “A conditional obligation to develop and establish long-term governance institutions and research”, we expand on this obligation and discuss the role of institutions in securing the interests of future generations.

In summary, our argument is that some of the interests of future generations ground basic rights that come with corresponding obligations for the current generation to protect them. We show that this obligation is to long-term governance directed at the state. This obligation is conditional. Long-term governance is only obligatory if there are feasible pathways that are sufficiently likely to be successful, and are at least reasonable with respect also to their negative impacts. To follow these pathways with a sufficient chance of success, it is quite often necessary – arguably in the case of climate change – to coordinate collective action for a prolonged period of time in the strategic way of long-term governance. If we assume these conditions are given – (a) relevant rights

<sup>7</sup> This distinction is, of course, somewhat vague. Deteriorating transport infrastructure cannot be fixed instantly. Tenders have to be issued, materials transported, and workers need to build new infrastructure. There is, however, still a clear distinction between those long-term problems that require consistent and coherent strategic action over many years and those that are fixable in a relatively short amount of time, even if no efforts have been undertaken previously.

are endangered, (b) feasible and proportionate pathways to secure the endangered rights with a sufficient likelihood are available, and (c) pursuing these pathways needs strategic coordinated action over a prolonged period of time – then long-term governance is obligatory for a liberal democracy.

The following reconstruction of a corresponding deductive argument illuminates this in a more formal way by making our premises explicit:

P1: Democratically non-represented (future) persons (will) have basic rights that matter from a moral perspective for present democratic decision-making.

P2: Relevant long-term problems threaten basic rights of non-represented (future) persons.

P3: Basic rights of non-represented (future) persons can – in relevant cases – only be protected with long-term governance.

P4: Long-term governance is feasible and proportionate.

P5: If basic rights of present or future generations matter (P1) and are threatened by some long-term issues (P2) and only long-term governance can protect these rights (P3) and is both feasible and proportionate (P4), then we have an obligation to long-term governance.

C1: We have an obligation to long-term governance.

We discuss the plausibility of each premise in the following subsections.

#### **P1: non-represented generations have rights that matter**

Some long-term issues threaten the rights of non-represented persons. However, not all non-represented persons are alike: Some are already alive but cannot vote yet, i.e., children. Others, however, are not yet born, i.e., future people. With regard to already living persons who do not vote yet, premise P1 should be evident. These persons already exist and it is reasonable to assume that at least on average these people will have a lifespan that is roughly equal to or longer than the passing generations *ceteris paribus*. With respect to the corresponding period of time, the basic interests of the young generations have to be secured.

With respect to long-term issues that will affect people living in the distant future, the case is less straightforward, but we argue that it is still plausible to assume that the basic rights of future generations do matter for our present decision making from a moral perspective. There is, of course, the non-identity problem, according to which it is at least questionable if it is possible to harm persons (given that they at least have lives worth living) by policies that are side conditions of the very existence of these persons [10]. However, since we are concerned

with the question of whether we have to protect the rights of future generations, and not whether the neglect of this duty would have to be qualified as harming these future persons, the non-identity problem has a reduced force here [see also 11]. We hold it to be reasonable to argue that as long as we are justified in believing that there will be such future generations, then we have duties to respect their rights, whoever the persons constituting these generations will turn out to be. This fits with the practice that we ascribe human beings universal rights irrespective of their specific identity [12]. That we have to respect the rights of future generations – or in other words: That we are not allowed to violate their rights – does not imply that future generations have rights now:

*“Claiming that we can violate future people’s rights now does not [...] imply that future people have rights now. That implication would hold only if it were contended that presently existing rights alone constrain present action. But we can safely assume, first, that future people can be bearers of rights in the future; second, that the rights they will have will be determined by the interests they have then; and, third, that our present actions and policies can affect their interests. Thus, if we can adversely affect future people’s interests, we can violate their rights.” [12, p. 145].*

A second line of reasoning that makes it plausible that we have to respect the rights of future generations does so by focusing on the implications of the rights of present generations. Here is, to our current knowledge, a novel argument that makes it plausible that the rights of future generations matter for our present decisions: Consider from an ethical perspective the (not necessarily unlimited) basic right to procreate that has intuitive appeal and corresponds to some reasonable interpretations of the recognized human right to found a family [see 13]. Partners can only reasonably be expected to exercise their right to procreate if their possible children are guaranteed basic rights as well. Otherwise, the fair value of the right to procreate is not protected. That a right has fair value for someone means, or so we would argue, that they have the means to make use of the right, and that making use of the right does not lead to unacceptable outcomes or risks.<sup>8</sup> Now, if one grants that this is the case

<sup>8</sup> In the specific case, the potential children (or grandchildren, ...) who may come into existence when one decides to make use of the right might live under unacceptable conditions when no adequate measures to secure their basic rights are taken, which is an unacceptable risk. We thus go beyond the original idea of the fair value of a right, which originated in Rawls, who only wanted the fair value of political liberties to be guaranteed [14]. However, we think our formulation of the notion and the extension to further basic rights are at least initially plausible and thus should be considered. We thank an anonymous reviewer for pressing us to clarify.

and the right to procreate implies that the society has to take adequate measures to protect the basic rights of the next possible generation, an infinite regress follows: A part of the basic rights of our possible children is again the right to procreate, so that we have to try our best to guarantee basic rights *ad infinitum*.

A third line of argument for the claim that we have to respect the rights of future generations might focus on the concept of legitimacy. According to liberal theories of legitimacy, a legitimate policy implies that all affected reasonable persons could under ideal circumstances be expected to consent with regard to their normative convictions [15]. It seems to be evident that our policies, for example regarding measures to combat climate change, will affect future generations to a high degree. Accordingly, these policies have to be acceptable to future generations. However, we cannot reasonably expect future generations to find it acceptable that their basic rights are violated. If this is true and our decisions affect future generations, then our decisions are only legitimate insofar as they respect their rights. The fact that we have to imagine the reasoning of future generations, since they are not present, is not an obstacle, since the liberal theory of legitimacy also refers to the imaginary reasoning of reasonable persons under ideal circumstances for present generations.

There are, of course, further possible routes of argumentation that make it plausible that future generations have rights that we need to take seriously in our present decision making. Through the three routes of argumentation presented for this claim, we want to highlight arguments which we find particularly convincing. Any argumentation for the claim that we have to take seriously the rights of future generations has, we believe, the advantage that it coheres with commonsense morality or widely shared moral intuitions. That we owe moral consideration to future generations also in the way of respecting the rights they will have, at least for some highly plausible future scenarios that are connected to our present decisions, is also a widely shared conviction within the political sphere. Additionally, there is a growing awareness in the legal realm that the rights of future generations matter.<sup>9</sup>

However, rights are not the only source of reasons to engage in long-term governance. Sally Scholz [17] explores how solidarity in intergenerational contexts can sustain forward-looking commitments to future movements for justice. Thomas Randall [18] grounds sufficientarian duties in a care ethics framework. Many scholars working in what can be considered broadly as an aggregative-consequentialist framework situate our duties

towards future generations in reasons of beneficence [e.g., 19]. Samuel Scheffler [20] contrasts these with attachment-based reasons to worry about the future. As stated above, we believe that the advantage of using the language of rights when discussing the obligation to long-term governance is that it is broadly compatible with a variety of normative theories.

### ***P2: relevant long-term problems threaten the basic rights of non-represented (future) persons***

As we have shown in the preceding section, long-term problems negatively impact non-represented (future) persons. Our argument here is specifically concerned with the impacts of long-term problems that can be understood in terms of basic rights violations [cf. 21]. This is why premise P2 refers to *relevant* long-term problems. By this, we mean those long-term problems with basic rights implications. An example is the threats that climate change poses to the (basic) rights to life, health, and subsistence [e.g., 22, 23]. We leave aside other problems that require continuous long-term efforts, since we are interested in the specific moral obligations that those severe threats may put on the current generation. Declining scientific literacy, for example, may be a problem that requires continuous long-term efforts to fix. Still, since it does not necessarily threaten the basic rights of non-represented (future) persons, it may not allow the current generation to undertake the far-reaching legislative actions that more severe long-term problems potentially allow for, as we discuss in the section, “A conditional obligation to long-term governance”.

We also only focus on the long-term basic rights effects on persons, and leave aside harm to animals and damage to the environment, insofar as these do not also affect persons. While many of the long-term problems discussed in the preceding section are environmental problems, we consider them to be normatively relevant because of their impact on persons. We do this to keep the discussion focused. Non-anthropogenic considerations may well constitute further reasons to engage in long-term governance.

### ***P3: endangered rights of non-represented generations can—in relevant cases—only be secured by long-term governance***

Our argument assumes that the relevant long-term problems, i.e., those that threaten basic rights, can, again in relevant cases, only be secured by long-term governance. The examples we have in mind include climate change, biodiversity loss or antibiotic resistance. These can only be dealt with adequately if there is strategic, coherent, and consistent collective action over a prolonged period of time. Insofar as the protection of basic rights needs adequate action against relevant threats, and adequate action hinges on long-term governance, we need

<sup>9</sup> See, for example, the Maastricht Principles on The Human Rights of Future Generations [16].

long-term governance to protect the basic rights of non-represented generations.

Not all cases of long-term problems are covered by this argument and not all cases of long-term problems that threaten basic rights may require long-term governance. Think, for example, of the threat from an asteroid impact. An asteroid of sufficient size would certainly threaten people's basic rights if it happens to be on a collision course with Earth. However, imagine further that directing away asteroids is extremely expensive, but does not require much preparation. It may well be prudent to prepare for this risk well in advance. But assume that this will not necessarily be successful: In that case, it would not be true that only long-term governance can protect the basic rights of non-represented generations and our argument would not hold.<sup>10</sup> Furthermore, whether this premise P3 is true is an empirical question that we cannot answer here (but believe to be plausible). It may well turn out to be the case that there are no long-term problems that both threaten basic rights and can only be solved by long-term governance.

***P4: long-term governance to secure the rights of non-represented generations is feasible and proportionate***

Showing that the rights of non-represented people can only be secured with long-term governance is not sufficient to ground a duty to long-term governance. We also need to show that long-term governance is feasible and proportionate. By feasible, we mean that there are realistic pathways to ensure the success of long-term governance. By proportionate, we mean that the benefits created by long-term governance outweigh the burdens necessary to engage in it and that the burdens are not in principle unacceptable.

Let us begin with the feasibility of long-term governance. Feasibility can be understood as technical feasibility and political feasibility. Technical feasibility concerns include the availability of technologies, resources and person-hours required to solve long-term issues. Dangerous climate change beyond 2° C of global warming could be solved with carbon capture and sequestration (CCS) technology that absorbs CO<sub>2</sub> directly from the atmosphere. However, CCS is very expensive and unlikely to be available at scale to stop global warming. It is therefore not technically feasible to limit climate change by CCS alone,<sup>11</sup> at least currently [24].

<sup>10</sup> This does not necessarily mean that we thus have no obligation to assist future generations in avoiding asteroid impacts. We merely mean to state that this obligation would not be grounded in our unique position to help them.

<sup>11</sup> CCS will still likely be one part of a combined strategy to limit global warming. However, due to the high costs of CCS, as of now, it is only a viable option for those emissions that are very hard to reduce, for example for emissions from air travel. For many other cases, the costs of CCS far outweigh its benefits.

Political feasibility, on the other hand, concerns whether the required efforts are supported or at least tolerated by enough people [cf. 25, 26]. If parties and candidates that propose long-term governance measures do not get voted into office or are voted out of office, then these measures are not politically feasible. The lines between technical and political feasibility are blurry. There are some cases where something is technically infeasible in the sense that there are hard physical limits that prevent it. Often, however, what we mean by technically infeasible is that something would be prohibitively expensive and would thus require huge sacrifices in pursuing other goals. Climate change, for example, could easily be limited to below 2 °C of global warming if we just cut greenhouse gases drastically. This, however, would mean drastic welfare losses, including loss of human life from famines, loss of mobility, and so on. Strictly speaking, this is possible, but it is unrealistic to implement.

Long-term governance also needs to be proportionate. In general, what we mean by this is that the costs of long-term governance are proportionate to the goals we intend to achieve. In other words, this means that the benefits to future generations in terms of the protection of their basic rights outweigh the burdens that the current generation needs to bear in order to secure them.<sup>12</sup> The issue is more complex than a simple cost-benefit analysis since what is at stake are the basic rights of future generations. The protection of basic rights is such that only some normative considerations, like the protection of the basic rights of current generations, constitute sufficient reason to not honor it. In other words, even if many people in the current generation would suffer considerable economic losses in order to protect the basic rights of a smaller number of future people, they would still be required to bear these costs.

Generational sovereignty is one of the normative considerations that may legitimately stand against the protection of the basic rights of future generations [27, 28]. Long-term governance may be anti-democratic because it will often consist in establishing hard-to-change measures. Building and adapting institutions is key to successful long-term governance. Since many long-term problems require continuous efforts, the respective institutions to tackle them need to be sufficiently robust in the face of changing administrations, new generations of public servants, and so on. The intention behind this is to ensure that long-term governance efforts continue even if the political will to protect future generations' basic rights (temporarily) wanes. Examples include

<sup>12</sup> Furthermore, long-term governance measures would not be proportionate if milder means to protect the basic rights of future generations were available.

divesting discretionary government power from elected government bodies to agencies (such as in the case of environmental protection agencies), or establishing new (constitutional) limits that hinder citizens and future governments from jeopardizing long-term governance objectives. More concrete examples can be found in the cases of the ex-Soviet republics that joined the European Union. Governments in these countries were able to “lock in” advances in the rule of law and free-market reforms and make it harder for future governments to change them. This resembles rational choices to bind oneself to certain kinds of decisions if some sort of akrasia – or, with respect to collective decision making, a collective action problem – is a serious risk. A corresponding metaphor would be Ulysses’ rational choice to tie himself to the mast to hear the songs of the sirens [29]. On the flip side, however, this means that we impose duties on near-future generations that they themselves might not have chosen to honor and thus limit their sovereignty.

This is a serious objection. If it is valid, it might be the case that long-term governance is not proportionate. However, we would argue that this is a matter of weighing competing normative considerations: There may be clear-cut cases involving serious threats to future generations’ basic rights at the cost of small sovereignty losses for near-future generations, and cases where the scales are more evenly balanced. We merely state that generational sovereignty does not categorically trump the protection of future people’s basic rights via long-term governance institutions.

With respect to the long-term problem of climate change, for example, long-term governance seems to be proportionate, since we can protect basic rights without infringement of rights in the same magnitude or unacceptable losses of sovereignty. However, the case of feasibility is more complicated. In our view, long-term governance is likely to be feasible only when major obstacles can be solved. We elaborate on this in the following two sections.

#### ***P5: the plausibility of our obligation to long-term governance***

Premise 5, i.e., the conditional, hinges on premise P1 and the context provided by premises P2 to P4. If P1 is accepted and it is thus granted that the rights of non-represented persons matter for our present decision-making, we also have duties that correspond to these rights and the obligation to respect these rights. We think it is highly plausible that respecting a right means to protect it if it is threatened, as long as such protection is feasible and proportionate. This should be uncontroversial insofar as the rights are threatened by our own actions. However, we would argue that this is also true if the rights are threatened by some other party or by natural causes. Insofar as one accepts the ensemble from premises P1 to

P4 and thus grants that only long-term governance can protect the threatened basic rights, it follows that we have an obligation to long-term governance with respect to some long-term issues. What the argument provides is not a strict proof that we have in fact an obligation to long-term governance with respect to some long-term issues, it rather shows the plausibility of this normative claim, insofar as one agrees that all the premises are plausible.

#### **Obstacles to successful long-term governance—the case of climate change**

Long-term governance is difficult. In one sense, this is not surprising, given the tremendous harm that long-term problems threaten. In the preceding section, we mentioned challenges such as climate change, antibiotic resistance, and biodiversity loss as examples of long-term problems. However, as we have hinted at above, the severity of these challenges is not the whole issue. We argue that long-term problems are particularly worrisome since our current framework of institutions often fails to address these. This chapter discusses these challenges to successful long-term governance with the example of climate change.<sup>13</sup> We focus on two deficiencies in particular: A presentist bias in our institutions that prefers solving short-term problems over long-term problems, and the deep entanglement of the problem in our socio-political way of life that necessitates considerable redistribution to address resistance by the losers of a sustainable transformation.

Climate change is a problem characterized by what Stephen Gardiner [30] calls the “temporal dispersion of effects”. By this, Gardiner draws attention to the fact that releasing greenhouse gases is (in many cases) not immediately harmful to anyone, but only in conjunction with many other emitters over large timescales. Together with the inertia of the climate system and the persistence of greenhouse gases in the atmosphere for hundreds of years, this means that most of the negative effects of our fossil fuel-based lifestyles will probably materialize over hundreds of years. However, the way institutions are set up in our liberal democracies is an obstacle to addressing problems where cause and effect are drastically dispersed. This is because these institutions are established and modified by representatives who are accountable to their voters. This is a positive feature of democracies, but at the same time, it introduces a presentist bias against those who do not vote yet and future generations who are affected by our actions today. This is not to say that

<sup>13</sup> While climate change exhibits many of the typical characteristics of long-term problems, it also exhibits further characteristics that contribute to its intractability but are not essential for long-term problems. Among these are the global nature of the problem and its structure as a social coordination problem.

future harms of climate change are not addressed at all by our current constitutional set-up: Many countries recognize the interests of and the need to protect children and future people in their constitutions.<sup>14</sup> However, given the lack of action against climate change and the tremendous harm that the efforts that are currently undertaken will result in, it is obvious that these constitutional protections of children and future generations are not working sufficiently well. If the effects of emitting greenhouse gases were not temporally dispersed but eventuated immediately, then we surmise that the problem would receive far more attention and be addressed more forcefully.<sup>15</sup> Successful long-term governance for climate change requires overcoming this presentist bias, for example by strengthening the constitutional protections of the rights of future generations or by establishing representatives, such as an ombudsperson or a citizens' assembly, for future generations.<sup>16</sup>

The difficulty of combating climate change is, of course, not only due to the temporal dispersion of cause and effect. As Gardiner points out, climate change is “a perfect moral storm” of multiple serious problems coming together to create something that creates an immense moral challenge [35]. Gardiner argues that, besides the temporal dispersion of cause and effect, there is also a global dispersion of cause and effect, where the Global North benefits from emissions-generating activities and creates a problem that affects the Global South the most. Addressing this challenge would probably require additional, unique governance institutions, even in the absence of the temporal dispersion of cause and effect. Long-term governance, however, focuses on the temporal aspect of climate change and is thus only one piece of a puzzle to successfully address it.

Current institutions also struggle to address climate change because emitting greenhouse gases is deeply rooted in our socio-economic system, where almost any human activity comes with emissions as a side-effect. Energy systems still largely depend on fossil fuels, especially if heating is taken into account. Similarly, mobility systems depend on fossil fuels, therefore it is not only economic activities that require emissions, but also leisure. Moving away from fossil fuels also seems especially difficult for agriculture, where comparatively few reductions have been undertaken so far [24]. Changing this

socio-economic system is difficult since it will foreseeably create losers who will resist these changes. Taking losers on board can be done in various ways, for example by establishing grandfathering schemes where those who are currently particularly reliant on polluting technologies may be given more time to reduce their emissions, or by subsidizing alternative technologies that are less polluting but more costly. Solving climate change by these means may still be difficult because of the scale of the distributive measures required.<sup>17</sup> A further complication derives from some of the potential losers being powerful and politically well-connected fossil fuel companies. These companies invest considerable resources into misinformation and astroturfing campaigns to hinder effective climate action [cf. 37], which is another reason why the issue is so hard to tackle.

Not all long-term problems fail to be addressed by our current institutional system. Consider the successful case of limiting acid rain. Acid rain is caused by nitrogen and sulfur compound emissions from factories, power plants, and vehicles, and can cause harm to aquatic animals and plant life [38]. Similarly to the case of climate change, acid rain is a cumulative problem where harm only occurs once too many parties emit together. In the 1970s, governments started regulating the emission of nitrogen and sulfur compounds from factories, power plants, and vehicles. These efforts successfully reduced the harm from acid rain.

Why was acid rain successfully addressed whereas many other long-term problems seem to remain so hard to tackle? Although we are speculating to some extent, we surmise that acid rain is a problem that is relatively cheap to fix, e.g., with emission scrubbers at power plants and vehicle emission controls. Furthermore, the harmful effects of sulfur and nitrogen emissions are relatively localized and materialize relatively quickly. Emissions are distributed by the wind, and fall in nearby forests and rivers, creating visible effects after only a few years. Thus, there is less dispersion of cause and effect, unlike in the case of long-term problems such as climate change.

#### **A conditional obligation to develop and establish long-term governance institutions and corresponding research**

If we take the diagnosis in the preceding section seriously, this has implications for our obligation to long-term governance, at least with respect to climate change. In the end, we think this leads to a specification of our obligation to long-term governance with respect to climate change: Insofar as we think (i) that the institutional

<sup>14</sup> For example, Article 395 of the Ecuadorian Constitution mentions “meeting the needs of present and future generations”. Article 104 of the Norwegian Constitution states that “[f]or actions and decisions that affect children, the best interests of the child shall be a fundamental consideration.”

<sup>15</sup> The problem of climate change may become increasingly easier to solve since its effects increasingly materialize today and in the near future in the form of extreme weather events, changing rainfall patterns, receding glaciers, and so on.

<sup>16</sup> For further proposals and discussion, see: [3, 31–34]

<sup>17</sup> The recently established WIM (Warsaw International Mechanism) climate loss and damage fund, meant to provide new and additional financial support to developing countries for already occurring climate damages and protection measures, received, so far only 0.2% of the funds that experts consider necessary to achieve its goals [see 36].

setup of our current liberal democracies is the main cause why we fail to establish long-term governance that can adequately tackle climate change, and (ii) insofar as an institutional change has the chances to be proportionate and reasonable, then our duty to long-term governance leads to a duty to foster research on long-term governance institutions and corresponding pathways to institutional change for our liberal democracies. We make this reasoning more precise by stating it again in the form of a deductive argument that builds on the conclusion of the section “A conditional obligation to long-term governance” (premise P1), and the empirical diagnosis of the section, “Obstacles to successful long-term governance” (premise P2).

*P1: We have an obligation to long-term governance (with respect to climate change).*

*P2: The institutional setup of our current liberal democracies does not allow for adequate long-term governance (with respect to climate change).*

*P3: If we have an obligation to long-term governance but the institutional setup of our current liberal democracies does not allow for long-term governance, then we might have the obligation to change the institutional setup of our current liberal democracies.*

*C1: We might have the obligation to change the institutional setup of our current liberal democracies.*

*P4: If we might have the obligation to change the institutional setup of our current liberal democracies, then we have to foster research on promising long-term governance institutions and the political pathways to corresponding institutional change.*

*C2: We have to foster research on promising long-term governance institutions and the political pathways to corresponding institutional change.*

In order to assess the plausibility of the argument, and of conclusions C1 and C2, let us take a closer look at the new premises P3 and P4 in the rest of this section.

***P3: do we need institutional change when we accept the obligation to long-term governance in the face of climate change?***

P3: Do we need institutional change when we accept the obligation to long-term governance in the face of climate change?

Much of the plausibility of the conditional premise P3 hinges, of course, on the question of whether one agrees with our empirical diagnosis in the section, “Obstacles to successful long-term governance” (and thus premise P2). Even if it is granted that the institutional setup of our current liberal democracies does not allow for long-term governance with regard to climate change, it is not

obvious that institutional change is justified. It might well turn out that institutional change is not feasible or proportionate, since institutional change comes with great challenges and risks. If institutional change is evaluated as infeasible or not proportionate, then it might well be that our obligation to long-term governance ceases, since there is only an obligation if long-term governance is feasible and proportionate itself (see premise P4 in the section, “A conditional obligation to long-term governance”).

However, even if one accepts the diagnosis that the institutional setup of our current liberal democracies does not allow for long-term governance with respect to climate change *ceteris paribus*, there might be alternative pathways to enable long-term governance even without institutional change – for example a drastic change in political and non-political preferences of a significant part of the population, or the establishment of new and effective institutions in the international sphere.

Therefore, we were careful in the formulation of premise P3: Even if one initially grants that there is an obligation to long-term governance with respect to climate change and one shares the diagnosis about the institutional dysfunctionality of our current liberal democracies in this respect, this does not strictly imply an obligation to institutional change, but it does make such an obligation very likely. What follows is that one should take seriously the possibility that there is a moral obligation to institutional change. Whether or not there is such an obligation depends to a huge degree on the evaluation of pathways for institutional change – if there are feasible and proportionate ones. However, such an evaluation depends on further research on this topic and therefore leads to premise P4.

***P4: do we need research on long-term governance institutions and corresponding pathways to institutional change?***

If one accepts premise P3 and thus takes seriously the possibility that there is a moral obligation to institutional change for our current liberal democracies with respect to climate change, then this leads to another rather epistemic obligation. One needs to get a better understanding of relevant options for institutional change and the corresponding available pathways that are likely to lead to those institutional innovations. It is only through scientific research on this topic, to provide a better understanding, that it will be possible to assess the feasibility and proportionality of these paths and, consequently, of the long-term governance that depends on these measures.

The main rationale behind premise P4 is that as soon as one takes seriously that one might have an important obligation, one would act irresponsibly if one did not take adequate epistemic means to clarify the situation.

The corresponding long-term governance research is of normative, empirical, inter- and maybe also trans-disciplinary nature. We will elaborate on the nature of required long-term governance research in the next section.

### **Forms of long-term governance research**

There are at least two forms of long-term governance research: The first area of research is concerned with the normative foundation of long-term governance within the discipline of practical philosophy. This is where the present paper is situated. The argument for our obligation to long-term governance and the corresponding obligation to research long-term governance institutions and institutional change can be situated in different philosophical fields in which our argument must prove plausible. We elaborate on the relation of our paper to established debates in practical philosophy in the next two subsections while focusing on two areas of research. The first concerns intergenerational justice, while the second concerns the ethics of risks. The established debates on these topics overlap substantially with the philosophy of long-term governance but, as we will show, they are not co-extensive.

The second area of research concerns inter- and trans-disciplinary research on long-term governance practice, long-term governance institutions and feasible pathways for institutional change to enable adequate or better long-term governance. This research goes beyond the normative focus of practical philosophy and explores issues such as the identification of cases where long-term governance practices are already effective and efficient, and the key barriers to the establishment of long-term governance with respect to issues where effective and efficient long-term governance practices do not exist. Furthermore, such long-term governance research helps to scientifically identify suitable long-term governance institutions for the cases where they are needed. This could be done in a transdisciplinary way, not only by testing these institutions in real world settings, but also by advancing their actual implementation in a participatory manner. We provide a brief overview of this envisaged field of research in the third subsection.

### ***Long-term governance and intergenerational justice***

Long-term governance as a philosophical topic overlaps with intergenerational justice [39]. Both topics involve long timeframes and uncertainty. Intergenerational justice, however, is specifically concerned with questions of justice that involve non-overlapping generations, i.e., where the current generation is dead before the future generation comes into existence. Core issues that arise from this lack of overlap between generations concern the assumed non-reciprocity between currently living

and future people [40] and the paradoxes that arise from the fact that current generations can not only harm and benefit people but also affect who and how many people will be born in the future. This is the non-identity problem [see premise 1 of the section “A conditional obligation to long-term governance” and 41, 42]. Answers to these issues are certainly relevant to the philosophy of long-term governance, but they are not at its core, according to our understanding.

While many long-term governance issues involve non-overlapping generations, they do not necessarily do so. Issues of long-term governance arise whenever a policy spans across terms of office and requires the continued support of the next government to be successful. Similarly, long-term governance is also necessary when a policy aims at benefiting or protecting those who do not vote yet, i.e., children.

We understand the philosophy of long-term governance as not primarily concerned with deep philosophical puzzles such as the non-identity problem but with the difficulties that liberal democracies face in committing themselves to long-term policies. Some of these are problems of moral motivation, where those who vote are called upon to protect the moral rights of those who do not vote yet [9]. Others are problems of institutional design where the interests of some groups are inadequately represented due to whose voice is heard and whose interests are represented.

### ***Long-term governance and the ethics of risk***

The philosophy of long-term governance also has some overlap with the philosophy of risk, especially with decision-making under uncertainty. Much of what we discuss in this paper as problems of long-term governance is also discussed in the literature on the ethics of risk, such as spent nuclear fuel storage and spending on disaster prevention. Sven-Ove Hansson [43] represents a useful point of comparison to long-term governance. Hansson follows the literature in distinguishing decision-making under risk, where meaningful probabilities are available from decision making under uncertainty, where we at least partially lack that information. However, Hansson discusses three further features that many real-life decisions exhibit: Great uncertainty, multi-agent interaction, and the problem of control.

Great uncertainty, according to Hansson, goes beyond the mere lack of probabilities but also involves uncertainty about whether we know all possible outcomes in a decision situation (the so-called problem of unknown unknowns). Furthermore, great uncertainty is characterized by uncertainty about values where we may not be sure what the relevant guiding values are in a particular decision situation. Finally, great uncertainty may also involve issues of demarcation where people may disagree

about what is at stake in a particular situation.<sup>18</sup> All of these features may be present in long-term governance issues. Of special interest for us is uncertainty about values in long-term governance decisions which are characterized by long timeframes and concerned with radical societal changes.

Hansson further notes that great uncertainty also derives from the interaction of multiple agents that makes the outcome of policy interventions hard to model in probabilistic terms and generally hard to foresee. This concern is certainly also relevant for long-term governance.

Finally, the problem of control concerns the fact that in individual choice situations there is a question of whether we should consider our own future actions as under our control or not. This may be relevant in multi-stage decision problems where, “[T]here is always uncertainty about how much control we (now) have over our (future) actions. This factual uncertainty leaves a wide scope for non-factual, in particular ethical, considerations to influence our ascriptions of control” [43, p. 19]. Similarly, in the context of long-term governance, we face the key problem of control over time when making decisions or establishing institutions since these rely on the continued support of future administrations and/or future generations to be successful.

Long-term governance and risk ethics do not overlap entirely, however. On the one hand, long-term governance is narrower. Long-term governance only concerns the part of risk ethics that is concerned with long-term democratic decisions with a sufficient amount of complexity that require, for example, changes to key societal structures or institutions. In consequence, long-term governance does not concern individual decisions under uncertainty. On the other hand, long-term governance is broader than decision-making under uncertainty because it highlights the difficulty of long-term decision-making in situations where many agents need to act together (at the same time and over time) to change key societal structures and institutions while asymmetrical power-relationships and unequal distributions of benefits and burdens obtain.

#### ***Inter- and transdisciplinary research on long-term governance practices, long-term governance institutions and feasible pathways for institutional change***

There are cases where long-term governance is already to some degree effective and efficient with regard to specific long-term issues, for example with regard to atmospheric ozone depletion by chlorofluorocarbons. Scheer

et al. also discuss different national solar and wind energy feed-in tariff systems and how some of these are examples of successful long-term governance [5]. Of course, crucial improvements might be necessary here as well. However, from a general viewpoint one can ask the question why long-term governance seems to work at least to some degree in some cases, and whether this can inform solutions for cases where adequate or sufficient long-term governance is not established currently. Insofar as cases where long-term governance is not sufficiently established are typically more “uncertain, complex and ambiguous” [5, p. 17] and include examples such as climate change and nuclear waste management, one can ask what kinds of institutions are likely to enable adequate long-term governance in these cases and which pathways are available for creating these institutions. These issues all require empirical research on the underlying socio-technical and political structures. A necessary step is the creation of a new empirical research field on long-term governance that merges “[...] governance research, earth system governance, risk research, and transition governance studies [...]” [5, p. 17]. among others. This interdisciplinary research may also include and explore ideas from practical philosophy and especially from intergenerational and climate justice [e.g., 39].

Besides interdisciplinary empirical research, the field of long-term governance research might also include transformative research. This might be the case if long-term governance institutions and corresponding feasible pathways to institutional change are not only the object of inquiry but are experimentally and critically created and cultivated in a participatory way in civil society, e.g., in real-world labs or living labs [44, 45]. How existing transformative research focused on sustainability can be applied to the field of long-term governance research is an open question.

#### **Conclusions**

We have introduced long-term governance as strategic, consistent and coherent state governance of long-term problems over an extended period of time. Long-term problems are defined as very undesirable yet avoidable outcomes of human action or natural courses that are foreseeable today but will manifest only or mainly after a considerable timespan. Relevant long-term problems are likely to exhibit certain characteristics that make corresponding long-term governance difficult. These can be divided into necessary and accidental features. The necessary features include the long timeframes, the extension beyond electoral cycles, the undesirable results and the fact that they are avoidable. The accidental features include the lag between cause and effect, the large scope and complexity, their creeping nature, and the fact that

<sup>18</sup> Hansson gives the example of nuclear fuel storage, where one side may present the issue as a decision between different ways to store fuel and the other as potentially impacting whether nuclear energy will be used in the future [43, p. 15].

they require continuous efforts, radical changes to society, and sacrifices from one generation to another.

With respect to some long-term problems that threaten the basic rights of non-represented persons (i.e., persons who are not allowed to vote yet or who will only exist in the future), we have discussed the content and scope of our obligation towards them in the section, “A conditional obligation to long-term governance”. This obligation obtains when, additionally, long-term governance is necessary to protect the threatened rights, and long-term governance is feasible and proportionate with respect to the rights and interests of the present or intermediate generations. With respect to important present long-term problems such as climate change, thus, we have an obligation to long-term governance, although, as we have shown, the question of proportionality is challenging.

With respect to climate change, we argued additionally in the section, “Obstacles to successful long-term governance”, that the institutional setup of our current liberal democracies is ill-equipped for adequate long-term governance. In particular, we argued that the constitutional set-up of our liberal democratic systems is ill-equipped to tackle long-term problems that transcend election cycles, require deep changes to socioeconomic systems and have far-reaching distributive consequences. Long-term governance, we suggested, requires changing these institutions and establishing new, future-oriented ones.

Insofar as our diagnosis with respect to the long-term issue of climate change is accepted, we argued in the section, “A conditional obligation to develop and establish long-term governance institutions and corresponding research”, that the obligation to long-term governance might imply an obligation to institutional change, and thus implies an obligation to research on long-term governance practices, institutions and available pathways for institutional change. We elaborated on the possible forms of long-term governance research in the section, “Forms of long-term governance research”.

If our arguments are successful with regard to the requirements of public reason [14, 46, 47], then they may provide a justification for political action. This includes fostering long-term governance research as an inter- and transdisciplinary academic field. From the perspective of practical philosophy, this paper is a plea for engagement in this envisaged field.

#### Acknowledgements

We thank Ms. Antonia Krüger for editorial assistance and Ms. Julie Cook for proofreading support. We also thank Sören Hilbrich for very helpful and extensive comments to an early version of the paper. Finally, we thank the anonymous reviewers for their suggestions that have significantly improved our article.

#### Author contributions

Conceptualization: [ED, MS]; analysis and investigation: [ED, MS]; writing—original draft preparation: [ES, MS]; writing—review and editing: [ED, MS].

#### Funding

Open Access funding enabled and organized by Projekt DEAL. The research was funded by the Helmholtz Association of German Research Centers.

#### Data availability

No datasets were generated or analysed during the current study.

#### Declarations

##### Ethics approval and consent to participate

Not applicable.

##### Consent for publication

Not applicable.

##### Competing interests

The authors declare no competing interests.

Received: 15 February 2024 / Accepted: 31 December 2025

Published online: 24 January 2026

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