

## **FREEDOM IN THE ANTHROPOCENE: BRINGING POLITICAL PHILOSOPHY TO GLOBAL ENVIRONMENTAL PROBLEMS**

MARK COECKELBERGH, University of Vienna, Department of Philosophy, Vienna, Austria;  
CETE-P, Institute of Philosophy, Czech Academy of Sciences, v. v. i., Prague, Czech Republic

COECKELBERGH, M.: Freedom in the Anthropocene: Bringing Political  
Philosophy to Global Environmental Problems  
FILOZOFIA, 78, Supplement, 2023, pp. 52 – 61

In order to address the current global challenges, including climate change, it is helpful to connect environmental and technology ethics, and bring in political philosophy. After briefly exploring some relations between AI and climate change, this essay draws on my recent work – in particular the book *Green Leviathan or the Poetics of Political Liberty* – to discuss the topic of political freedom in the light of climate change and AI in the Anthropocene. Starting from the need for changing human behaviour into more climate and environmentally friendly directions, it discusses nudging and climate change, warns for the danger of green authoritarianism, and, inspired by the capabilities approach and critical theory, explores notions of freedom that go beyond the libertarianism-authoritarianism dilemma. This leads to a consideration of more relational notions of freedom that link freedom to justice and human flourishing and to a brief reflection on anthropocentrism and the modern focus on control.

**Keywords:** Freedom – Liberty – Anthropocene – Climate Change – Nudging – Anthropocentrism – Political philosophy – Modernity – Nussbaum – Marx

### **Introduction**

We find ourselves in times of crisis, or at least that is how we experience our time. There is an economic, technological, energy, environmental, and climate crisis. In order to deal with this crisis, we need as many intellectual resources as possible. Unfortunately, today thinking about the environment and thinking about technology are often divorced. For example, in academia there is little interaction between environmental ethics and technology ethics. This is surprising, given that technology has a significant impact on the natural environment, and that in a deeper sense technology is part of how we relate to nature. Perhaps it has to do with the split between nature and culture, nature and

technology, and other modern divisions (here Latour's work is of interest, in particular Latour 1993). In any case, we need to explore ways to better connect both fields.<sup>1</sup>

Moreover, normative work on technology is often framed as ethics of technology, for example "ethics of AI" or "AI ethics," without explicitly considering the political. This is not only misleading since many so-called "ethical" questions discussed have a political dimension, but also because it neglects or at least discourages using political philosophy for thinking about technology. Instead, I propose to start from the claim, well-known in philosophy of technology, that technology is political (see for example Winner 1980), and I have argued that we therefore need political philosophy next to ethics (Coeckelbergh 2022). This means, for instance, that we need to evaluate new technologies such as AI in the light of political principles such as freedom, justice, and democracy. Given that many technological and environmental problems have at least a global aspect (if they are not entirely a global problem), we also need a more global approach to these issues.

After exploring some relations between AI and climate change – some ways in which AI can help with climate change but can also make things worse – this essay discusses the topic of political freedom in the light of climate change and AI in the Anthropocene. While it is clear that we will need to accept some limits to individual freedom in order to deal with environmental issues (St'ahel 2016) and climate change, more work is needed on which limits are justified and what the political-philosophical tensions and trade-offs are. Here political philosophy can help. Starting from my recent books *The Political Philosophy of AI* (2022) and *Green Leviathan* (2021), I will briefly investigate the issue of freedom (or liberty) with regard to the need for changing human behavior into more climate and environmentally friendly directions. This includes a discussion of nudging and climate change, a warning for green authoritarianism, an argument for a notion of freedom that goes beyond negative freedom and beyond the libertarian-authoritarian dilemma, and a criticism of anthropocentric politics and of the modern focus on control.

### **I. Climate Change and AI in the Anthropocene**

Climate change is one of the most threatening global challenges we face as humanity. It is also a very political issue. Think of climate protests such as Extinction Rebellion or the School Strike for Climate and Fridays for Future movements, often associated with Greta Thunberg. It is therefore vital to reflect on the role of technology vis-à-vis this crisis.

---

<sup>1</sup> At the Institute of Philosophy of the Czech Academy of Sciences I help to set up a Centre that does precisely that. For more information see <https://cetep.eu/>

Technology can help to solve climate change, but it is also part of the problem. Consider for example artificial intelligence (AI). On the one hand, AI is part of the solution: it can help us to mitigate climate change by gathering and processing data on temperature change and carbon emissions, predicting and showing the effects of extreme weather events and climate change, predicting energy needs and helping to manage energy consumption, processing data on endangered species, transforming transportation in a way that leads to less carbon emissions, tracking deforestation, monitoring oceans, and supporting precision agriculture. Some propose even methods such as carbon capture and (other forms of) geoengineering. Carbon capture stores carbon in underground geological formations. Here too AI can help.

However, the use of AI also raises ethical problems such as responsibility attribution, bias, and impact on the labor market (Coeckelbergh 2020), and AI can even *contribute to the problem* of climate change. Consider in particular the electricity used by data centers and large language models, and the carbon emissions that follow from this. AI is also sold to the oil and gas industry to help extract more fossil fuels. And the production of electronic gadgets is also not climate neutral but requires energy and leads to further carbon emissions. As Crawford (2021) has shown, the infrastructure of AI has significant social and environmental costs.

A deeper problem is that AI is one of the technologies that create and exacerbate what is sometimes referred to as the Anthropocene. Initially a term coined by a natural scientist (Crutzen 2006), the idea that humanity has become a geological force is now used more widely and is aptly illustrated by the phenomenon of climate change itself, to which humanity significantly contributes. The modern desire to control everything and everyone has resulted in a planetary condition under which human agency on earth has increased to such an extent that humanity has gained a kind of hyper agency, increasing its grip on nature and the earth. Every problem is framed as a control problem, and in response more technology is proposed to increase control. AI can be seen as part of this technologically powered hyper agency of humanity and part of this circle of control. In other words, AI is part of the problem. And so is the very hope and claim that AI and other technology will and should solve the problem – thereby neglecting the complex social and political dimension of climate change (and technology). In order to deal with the political challenges related to climate change and AI, political philosophy can help.

## **II. Freedom and Other Political Challenges**

One of the most pressing political challenges when it comes to dealing with climate change is freedom or liberty. Many such problems follow from the need to change individual behavior as part of the mitigating climate change. In order to do this, there

are at least two options. One is to tell people what to do. Often regulation restricts what political philosophers call “negative freedom” (Berlin 1969): it interferes with my freedom to do what I want. For example, to restrict the use of carbon emitting cars is to restrict my negative liberty. I no longer have a choice: I am coerced not to use such a car (or to use it less). Partly this approach is useful. Environmental regulation in the EU, for example, has proven helpful.

But there is also another approach, which does not violate negative freedom: nudging (Sunstein and Thaler 2009). Nudging can be used for climate influences choices and behavior in more climate-friendly directions by altering the decision environment, the choice architecture. For example, it makes it easier to choose non-meat food options. We already know this from AI and digital technologies, for example when we want to buy something on Amazon and the AI-based software makes recommendations. Similar methods and tools can also be used for green purposes. AI is an excellent tool for influencing human behavior in this way. The idea is that negative freedom is preserved since there is no coercion, no direct interference with my choices and actions.

The problem with this option, however, is that it fails to respect human autonomy and rationality since it bypasses autonomous and rational decision-making. It is paternalistic: others decide what is good for you. One could argue that in a liberal democracy, the covert manipulation of citizens’ choices and behavior has no place. It destroys what we – following Berlin – could call “positive freedom”: freedom as autonomy. It prevents me from being a master of my inner freedom, the mastery I have over my self. But when it comes to addressing climate change and environmental issues, do we have an alternative? If people just do what they want, climate change will get worse. A combination of coercion and nudging seems needed.

Furthermore, since the problem happens at planetary level, preferably we need also a planetary solution. If we want to effectively deal with the problems, it seems that we need supranational solutions. Next to national measures, we need global governance of AI: partly through regulation (which is a form of coercion), partly through nudging. AI can help with this. Some might even propose that AI itself governs humanity in order to deal with the problem, since human intelligence seems not enough to deal with it. But this raises the objection that it would lead to authoritarianism at global level.

Thus, both on the national and the supranational level there is a clear tension between freedom and paternalism/authoritarianism. There seems to be a dilemma between libertarian *laissez-faire* and authoritarianism. The first retains (negative) freedom but does not solve the climate crisis. The second might solve it, but at the

price of destroying freedom by coercion (destruction of negative freedom) or nudging (bypassing autonomy, thus violating positive freedom).

Luckily, we don't have to choose between these extremes. We can try to find a middle way. Many political systems, for example in Europe, attempt such a middle way. And as I have argued in my book *Green Leviathan* (2021), we can also try to conceive of a different notion of freedom. I will say more about this below.

Yet freedom is not the only problem. Justice is also very relevant with regard to climate change and AI, in particular global and intergenerational justice. Not everyone on this planet is equally vulnerable to climate change. For example, a Pacific island population or people living in a region with long droughts are more vulnerable to the effects of climate change than, say, most people living in Western cities. Often those people – for example in the Global South – that are already struck by other problems also get to deal with climate change effects on top of their existing issues. And some of the effects of climate change may be felt more by the next generations. All these issues are political and need to be publicly discussed, for example using concepts of justice as fairness borrowed from political philosophy. We need to negotiate a fair local and global distribution of the environmental, social, and political effects of climate change.

This is difficult. Who should change their behavior and lifestyle to save whom? How much solidarity should there be between North and South, between younger generations and older generations? Who benefits from geoengineering? Political philosophy and the empirical social sciences can help us to discuss these issues.

In addition, it should be asked who should take the decisions about all these governance questions regarding climate change and AI. Not all countries in the world are democratic. And how to organize democracy at a global scale? Furthermore, some people(s) might not see climate change as a priority, for example when they are plagued by poverty, lack of clean water, malaria, etc. Let alone that they should care about AI. Is AI for climate a neo-colonial hobby or an attempt to exert authoritarian control? Much will depend on context and how it is done. It is also important to ask who should deal with the challenges and pay for the solutions. Some individuals and some nation states have more impact on the climate than others. It seems fair that they should take action first and contribute more to addressing the problem.

In any case, it is important to see and address all these problems as *political* problems. Too often both addressing climate change and dealing with AI are reduced to individual or technological problems. But they need to be addressed at the collective level and by using the conceptual tools we have to talk about politics – next to bringing in technological and scientific expertise. The project of using AI for climate can only be successful if it more directly addresses the ethical and political challenges, rather

than being mesmerized by the technology and being stuck in individualist versions of AI ethics. We need more public and democratic discussion about for instance freedom and justice. And this is not possible when the problems are presented as individual issues or as mere scientific and technological issues that can be solved by science and technology alone. Scientific expertise is absolutely needed to solve the problems, but in a democracy, citizens and their representatives should also have a say. This idea is not new. In political philosophy the role of expertise in a democracy is a long-standing issue. There are decades of discussions about rendering the development of technology more democratic and participative. This body of knowledge can be used in the area of AI and climate change.

Furthermore, education also has an important role: in order to prepare both citizens and experts to think about the politics of AI and climate change, education needs to be more interdisciplinary and bridge different worlds, for example between the tech industry and education. The citizens, politicians, and developers of technology we educate today need to be able to cross these bridges in order to deal with the global environmental and technological challenges of the present and the near future.

### **III. Revisiting the Discussion about Freedom: The Green Leviathan Scenario and Alternative Conceptions of Freedom**

To deepen the discussion about freedom, let us now revisit the freedom versus authoritarianism issue by zooming in on what one can call the Green Leviathan scenario. Imagine a society in which AI governs the earth in order to deal with climate change. It might be a green techno-dictatorship for the good of humankind. The latter cannot deal with freedom and therefore delegates its decisions to AI. I compare this argument to that made by Dostoyevsky's Grand Inquisitor, who argues in the novel *The Brothers Karamazov* that people have been given free will, but that this is a burden, and that authoritarianism (in that case by the Church) should relieve people from that burden. Here we would have a green Grand Inquisitor. AI decides paternalistically that it is better for the planet that it rules over humans, who otherwise would destroy their own planet.

This scenario is science-fiction, of course, and in that form it is not of immediate concern to us. But it is instrumental in bringing out again the tension between freedom and paternalism/authoritarianism outlined earlier in this paper. Once we really and effectively want to deal with climate change, we remain confronted with that challenge, that dilemma between libertarianism (full negative freedom) which does little or nothing against climate change, and green techno-authoritarianism which deals with the problem but at the cost of loss of liberty: loss of negative freedom because people are no longer free to do what they want but also loss of positive

freedom because their autonomy is bypassed in a paternalistic way: they are nudged and manipulated towards green, climate-friendly behavior.

In response to this dilemma, we can try to find a middle ground, as I suggested. We can think of how European countries, for instance, try to find a balance between freedom and heavy regulation. But there is a possibility to offer a solution at the conceptual level, which transcends the dilemma: let's rethink freedom, and then apply this discussion to climate change and AI. In particular, inspired by Sen and Nussbaum I defend a notion of freedom in terms of human flourishing, inspired by Marxism I propose to "make invisible hands visible," in order to reveal some of the power aspects of the problem, inspired by environmentalism and posthumanism I argue that we need a more inclusive collective, and inspired by Arendt (but also going against her) I propose the poetic-political project of participating in the making of common worlds (Coeckelbergh 2021).

Within the space of this essay, I cannot unpack and further develop everything, but let me zoom in on the capabilities approach as a notion of freedom and on the new class struggle that may emerge in the light of climate change. Both directions of thinking about freedom are based on the idea that freedom is not just formal freedom but is about development and emancipation.

First, according to Sen and Nussbaum, freedom is not formal freedom (as for example written into constitutions) but is about capabilities: not about what you have (formal rights, resources) but about what you are actually able to do with your life and about achieving human development and human flourishing. It is about real opportunities such as being able to live a long life, being able to live with others, and being able to participate in politics (Nussbaum 2011). Here freedom is thus linked to the good life and – in my reading – to the common good. One could say that here human freedom is understood in a relational way. It is about real humans embedded in, and relating to, social and environmental contexts.

This conception of freedom is interesting for discussions about climate and AI, as it offers a normative political direction that goes beyond the libertarianism/authoritarianism discussion. The point is not just that someone may interfere with your choices or manipulate you; freedom here is about whether you actually are able to live a good life with others as an embodied and social being. The approach also enables us to link freedom to justice, among other things. It is not enough to be free of authoritarian rule; if we want to deal with climate change in a politically good way, we need to make sure that the capabilities of people are fostered – all people. This may require a re-organization of how the benefits of climate change and technologies such as AI are distributed. In the language of the capabilities approach: we need to reflect on, and politically and democratically negotiate, *how to distribute capabilities* in the light of

climate change and AI. This may also guide the development of AI. It gives us a political ideal that can be used in software development.

Second, this exercise may also take us to Marxian thinking. Marx also criticized formal definitions of freedom. He argued that the freedom you actually have depends on the socio-economic class you are part of, which in turn depends on whether or not you own the means of production. Some people have more power than others because they own the means of production; they are capitalists. They dominate those that do not own the means of production, the workers; their emancipation is prevented. For example, tech capitalists that own AI technology and the data needed for it have a much better social position than others. But many people don't see this. Formally they are free (e.g., to enter a labor contract with their employer); they have negative liberty. They can, however, become aware of their true unfreedom and struggle against the oppressing class.

Similarly, and with regard to climate, one could argue that some people contribute more to climate change and benefit more from it. Climate change may well seem the result of invisible hands, as it may seem when responsibility for climate change is pushed onto individuals (it is said that we are all responsible, there are many hands). But this is misleading; we can render the hands visible. We can show that some have "bigger hands" in what is going on with our planet and argue that they should carry more responsibility for doing something about it. In terms of classes: there is a class which benefits from climate change and a class that suffers from climate change, without having much power and agency to do something about it. In so far as this leads to the formation of a "climate proletariat," I argue, there may be rebellions and revolutions once people realize what is going on in terms of power and want to challenge the climate capitalists. Class struggle would then ensue, but now between climate classes. The conclusion is again that a re-distribution is needed. Or a different socio-economic system. (And similar arguments can be made with regard to AI.)

We also have to discuss what such a redistribution of capabilities and benefits/risks means at global level, and what these notions of freedom and liberation mean for non-humans. Although Nussbaum has paid some philosophical attention to animals, capabilities theory and Marxian theory are both still largely anthropocentric. What about the interests and needs of non-human animals? What about the natural environment? What are the boundaries of the political?

#### **IV. Conclusion**

To conclude, in this essay I have offered some discussion of what freedom means and could mean in the Anthropocene, in particular with regard to climate change and AI. For this purpose, I have mobilized political-philosophical work on freedom.



First, I explained that when we use AI and regulation in response to climate change, both negative and positive liberty may be compromised. I also discussed the libertarian-authoritarian dilemma. Then I showed paths that move beyond the dilemma by re-thinking what freedom means. I used the capabilities approach and Marxian thinking to suggest alternative conceptions of freedom. I explored what these conceptions mean in relation to dealing with climate change and suggested that they should guide use and regulation of AI.

The latter exercise suggests a more relational approach to freedom that refuses to choose between libertarianism and authoritarian paternalism, but instead aims to realize freedom as flourishing and emancipation by creating the right conditions for that flourishing and emancipation. Arguably in the Anthropocene and in the light of climate change and current AI developments, these conditions include at least the following: (1) a more just social order that aims at strengthening capabilities and opportunities for people while dealing with climate change and using AI, and (2) a collective relation to nature that escapes the vicious circle(s) of control and technosolutionism so entrenched in our modern form of life.

## Bibliography

- BERLIN, I. (1969): Two Concepts of Liberty. In: Berlin, I. (ed.): *Four Essays on Liberty*. Oxford: Oxford University Press.
- COECKELBERGH, M. (2020): *AI Ethics*. Cambridge, MA: MIT Press.
- COECKELBERGH, M. (2021): *Green Leviathan or the Poetics of Political Liberty: Navigating Freedom in the Age of Climate Change and Artificial Intelligence*. New York: Routledge.
- COECKELBERGH, M. (2022): *The Political Philosophy of AI*. Cambridge: Polity Press.
- CRAWFORD, K. (2021): *Atlas of AI: Power, Politics, and the Planetary Costs of Artificial Intelligence*. New Haven, Conn.: Yale University Press.
- CRUTZEN, P. J. (2006): The “Anthropocene”. In: Ehlers, E. – Krafft, T. (eds.): *Earth System Science in the Anthropocene*. Berlin, Heidelberg: Springer.
- LATOUR, B. (1993): *We Have Never Been Modern*. Trans. C. Porter. Cambridge, MA: Harvard University Press.
- NUSSBAUM, M. (2011): *Creating Capabilities: The Human Development Approach*. Cambridge, MA: Harvard University Press.
- SĀHEL, R. (2016): Environmental Limits of Personal Freedom. *Philosophica Critica*, 2 (1), 3 –21. DOI: <https://doi.org/10.17846/PC.2019.2.1.3-21>
- SUNSTEIN, C., THALER, R. (2009): *Nudge: Improving Decisions about Health, Wealth and Happiness*. New York: Penguin Books.
- WINNER, L. (1980): Do Artifacts Have Politics? *Daedalus*, 109 (1), 121 – 136.

---

Funding received from the Horizon EU Framework Programme under Grant Agreement No. 101086898, within the CETE-P project (Czech Academy of Sciences, v. v. i., Prague).

---

Mark Coeckelbergh  
University of Vienna  
Department of Philosophy  
Universitätsstraße 7 (NIG)  
1010 Vienna  
Austria  
e-mail: [mark.coeckelbergh@univie.ac.at](mailto:mark.coeckelbergh@univie.ac.at)  
ORCID: <https://orcid.org/0000-0001-9576-1002>

CETE-P  
Institute of Philosophy  
Czech Academy of Sciences, v. v. i.  
Celetná 988/38  
Prague 1  
Czech Republic