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About half a century ago, modern democratic states started to respond to environmental pressures that had arisen in the wake of rapid industrialization. Initially, governments set up environmental ministries and agencies and issued legislation to control the pollution of air and water and to manage industrial processes, waste and toxic substances. Later, states expanded their activities to intervene more deeply into the energy and resource flows of their countries, for example by setting up recycling schemes, promoting and subsidizing environmentally efficient technologies and investing in the environmental education of their citizens. Typically, they also released budgets for environmental research activities and created more nature reserves and national parks. More recently still, states began to horizontally integrate environmental concerns into other policy areas, to set up mechanisms for public participation in selected environmental policy decisions and to commit to national goals for the reduction of greenhouse gas emissions. Overall, states have developed a host of coordinated activities to manage and steer societal-environmental interactions on various scales.

In a 2016 special issue of *Environmental Politics*, scholars reserved the term 'environmental state' for this most recent incarnation of the modern state. According to their definition, an environmental state is

> 'a state that possesses a significant set of institutions and practices dedicated to the management of the environment and societal-environmental interactions. [. . .] [It] has specialized administrative, regulatory, financial and knowledge structures that mark out a distinctive sphere of governmental activity, while the environment and what governments should do about it has become an issue of ongoing political controversy' (Duit *et al.* 2016, p. 5–6).

The environmental state is thus an *empirical* concept to describe the observable development of a new functional domain of state activity and the associated partial transformation of the state in past decades. Often this transformation is

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studied and interpreted by analogy with the emergence of the social welfare state several decades earlier, since 'both welfare states and environmental states are faced with the task of mitigating negative market externalities' in response to public pressure (Dryzek *et al.* 2002, see also Meadowcroft 2005, Duit 2016, p. 70, Gough 2016). From this perspective, the environmental state can be explained as a logical next step in the evolution of the state, extending the functional logic of the welfare state from the mitigation of social externalities to the mitigation of environmental externalities (Meadowcroft 2012). Just as the welfare state was never meant to overcome capitalism, but perhaps even served to secure the basis of its continued existence, so the environmental state was never intended to overcome the basic structures of industrial society. Instead, its functional logic has been tied to the paradigm of *ecological modernization*, that is, to the strategy of increasing the effectiveness and efficiency of environmental management through means of technological and administrative innovation without at the same time questioning the basic structures of the capitalist mode of production or of industrialism more generally (Christoff 1996, Huber 2008, Mol *et al.* 2010). While the first two decades of the environmental state were dominated by top-down regulatory approaches to environmentally reform some of the most polluting industrial processes, the late 1980s saw the beginning of a shift toward more horizontal modes of environmental 'governance', in which the state presented itself as the mediator between private and public interests and offered new forms of 'public participation' in certain policy areas (Lemos and Agrawal 2006, Newig and Fritsch 2009, Meadowcroft *et al.* 2012). This development was associated with the rise of 'new environmental policy instruments', which aimed at a 'greening' of market society through voluntary agreements, emission trading schemes, labelling schemes and financial incentives at the expense of top-down regulation (Jordan *et al.* 2003). Critics of this development admonish that the environmental state's continued reliance on ecological modernization has led to a reification of market rationality as the only way to deal with 'negative externalities', to an increasing depoliticisation of the environmental domain, and to a performative simulation of transformative change (Swyngedouw 2005, Blühdorn and Deflorian 2019, Machin 2019).

The empirically existing environmental state thus needs to be distinguished from *normative* conceptions of an idealized green state, eco-state or sustainability state (Eckersley 2004, Meadowcroft 2005, Heinrichs and Laws 2014), which aim at a fundamental reconstruction of the state along ideals of strong ecological sustainability and eco-centric values, often challenging the primacy of traditional state functions such as securing economic growth and profit accumulation. Despite its continued reliance on economic growth, industrial development and the capitalist organization of society, however, the environmental state has arguably produced a range of impressive achievements, most notably in pollution control and conservation. Thus, states have successfully tackled issues

such as air and water pollution, waste management, contaminated drinking water, exposure to harmful chemicals and lost recreational opportunities (Fiorino 2011). Although measurement of the overall environmental performance of states is difficult and complex (Meadowcroft 2014), analyses of the influential Environmental Performance Index (EPI) show that advanced environmental states (mostly OECD countries) perform particularly well with the set of indicators grouped together under the headline 'Environmental Health', which measures threats to human health. These include exposure to particulate matter and heavy metals, and access to sanitation and safe drinking water. Environmental states' performance is considerably poorer, however, in the group of indicators termed 'Ecosystem Vitality', which comprises issues such as greenhouse gas emissions, global and national biome protection, fish stocks and tree cover (Wendling *et al.* 2018). Recent analyses even show that indicators such as greenhouse gas emissions, energy use, material extraction and ecological footprint of advanced industrial countries continue to grow monotonically with prosperity or can be at best relatively decoupled from economic growth, so that they grow at a slower rate than the economy (Fritz and Koch 2016, UNEP 2016, Krausmann *et al.* 2018, Schandl *et al.* 2018, Haberl *et al.* 2019). Overall, environmental states appear to have primarily succeeded to shield their citizens from environmental harm, but have had much less success in minimizing their negative impact on the earth system, and in particular on the breaching of crucial planetary boundaries such as climate change and biodiversity loss (Rockström *et al.* 2009). This ambivalent performance record suggests the existence of what one of us has termed a 'glass ceiling' of environmental transformation (Hausknost 2017, 2020): a structural barrier that marks the line until which environmental reform is compatible with functional requirements of the state and beyond which this compatibility gives way to functional tension, conflict, and outright contradiction. Empirically, the glass ceiling seems to separate the realm of policies that improve domestic environmental quality without limiting the prospects of economic growth by interventions designed to save the planetary biosphere from the rapid decay it is currently experiencing, which might require deep transformations of the economic system. While environmental states have been impressively successful at the former, they have so far been complete failures at the latter.

As the 21st century enters its third decade, however, it is precisely the global challenges of a rapidly heating climate, of staggering rates of biodiversity loss, and of a generally disintegrating earth system that present existential environmental challenges for humanity and thus for environmental states. The contributors to this volume set out to explore the capacities of the environmental state to break the 'glass ceiling' and to meet these challenges, which are generally understood to require a comprehensive transformation of industrial civilization towards sustainability (Haberl *et al.* 2011, WBGU 2011). To what extent are these planetary, systemic, and structural challenges comparable with those the

environmental state has dealt with in the first half century of its existence? Can they be met with the same institutional arrangements, instruments and strategies as were used to deal with domestic pollution, waste disposal and toxic emissions? Does the state have the legitimacy to interfere with deep socio-economic structures, consumer choice, and individual liberties in order to meet the sustainability challenges of our age? Is the logic of modern state development, which led to the emergence of the environmental state out of the welfare state, still applicable when it comes to pushing for a comprehensive sustainability transition? Or is climate change a game-changer that requires a non-linear development of state and democracy, a transformation of the democratic state itself? What kind of state and what kind of democracy could possibly live up to the challenge ahead?

These are some of the questions that were discussed at a Joint Sessions workshop of the European Consortium for Political Research in Nottingham in April 2017, organized by the authors. The contributions to this volume derive from a selection of the papers presented at that workshop, which aimed to explore the merits and limits of the environmental state and the political prospects of a sustainability transformation. With its strategic shift towards nationally determined contributions, the UN Paris Agreement of 2015 (UNFCCC 2015) contributed much to renewed scholarly interest in the nation state (Carter *et al*. 2019). The field of sustainability transitions (which has previously been preoccupied with bottom-up processes and the role of the market in a multi-level perspective on change – see Geels 2011) is now similarly witnessing a 'political turn' and increasing interest in the state and its various and contradictory roles in transformation politics (Johnstone and Newell 2018). The state, it seems, continues to be an irreducible element of environmental politics and will remain indispensable as the sole authority to make enforceable collective decisions that bind behavior and human activity on a defined territory. A rapid, purposeful, and comprehensive decarbonisation of modern society without the force of law and without adequate institutions of deliberation, will-formation, decision-making, policy coordination, and enforcement seems highly unlikely. Just what are the chances of existing environmental states mastering these unprecedented challenges of societal transformation? And what are the structural barriers to transformative change? Is the state perhaps both, at the same time, an enabling and a disabling condition of transformation? What would be the consequence? Do we need to look beyond the historically evolved environmental state to new institutional arrangements of statehood and democracy in order to break the supposed 'glass ceiling' of transformation? The contributions collected here each approach these questions from a different angle.

The size of the challenge: talking about transformation

Our analytical point of departure is that the main task of the environmental state is shifting from managing 'environmental burdens' (Mol 2016, p. 49) to enabling and managing a deep socio-ecological transformation of society in line with the requirements of rapid decarbonisation and keeping within critical biogeophysical limits. The challenge, stipulated by the scientific community (IPCC 2007) and agreed by the international community (UNFCCC 2015) –, of complete elimination of the use of fossil energy carriers in industrial societies within less than three decades – dwarfs any previous energy transition in human history (Smil 2017). Moreover, all previous energy transitions have massively increased rather than reduced the energy services available to societies and the per capita use of energy (Krausmann *et al.* 2016, York and Bell 2019). The additional challenge of decelerating biodiversity loss and of stabilizing crucial geobiochemical cycles of the earth system (that are coupled to the societal energy system) would require further socio-economic transformations the depth and extent of which are as yet unknown. The sheer size of the required socio-metabolic transition has therefore been compared to the Great Transformation (Polanyi 1944) of feudal agrarian society to industrial capitalism (Haberl *et al.* 2011). Just as that transformation did not just exchange the means of production but led to the emergence of an entirely new model of society, including its political institutions and normative structures, the transition away from fossil energy may trigger (or presuppose) similar civilizational changes. Accordingly, Haberl *et al.* (2011, p. 11) state that '[i]t is probably as difficult for us to imagine a sustainable society as it was for people in the 16th century to imagine the industrial society of today'. The very fact that human history would have to reverse one of its few constants, namely the steady expansion of humanity's metabolism with nature, makes Marina Fischer-Kowalski state that

> 'a sustainability transition is both inevitable and improbable. It is inevitable, because the present sociometabolic dynamics cannot continue for very long any more, and it is improbable because the changes need to depart from known historical dynamics rather than being a logical step from the past into a more mature future state' (Fischer-Kowalski 2011, p. 153).

This implies a break with the logic of ecological modernization and thus with the existing repertoire of environmental managerialism. The transformation ahead will likely represent a non-linear development, requiring a new mode of doing (environmental) politics. The fields of long-term socioecological research (LTSER) and social metabolism studies (e.g. Singh 2013, Krausmann *et al.* 2016, Fischer-Kowalski *et al.* 2019) informing this argument suggest that social organization is related in complex ways to societies' energy metabolism with nature. For example, the modern state and its complex structures of mass representation appear to have co-evolved with the fossil energy system in a way

that renders the state's stability dependent on the availability of abundant, dense and inexpensive energy carriers (see also Mitchell 2011, Hausknost 2017, Pichler *et al.* 2020). One argument underpinning that co-evolutionary relationship can be traced back to Foucault (2010) and Polanyi (1944): without the establishment of 'the economy' as a quasi-independent, naturalized, and dynamic sphere of social reality (based on fossil energy) that serves as the common 'object' of steering and thus as the material essence of 'society', the modern democratic state would have lacked a stable foundation upon which to erect a representative order. The underlying (constructivist) argument is that in order for political representation to function stably and on a large scale, it presupposes an *objectified* social reality that is generated outside the representative relation (citizenry/state) and functions as a common object of reference upon which 'representation' can be performed. The fossil energy-powered, highly dynamic market system of industrial capitalism has taken on this function of an 'external' source of reality, around which the liberal democratic state could form (Hausknost 2017). Another argument is that reliance on economic expansion and the associated 'elevator effect' providing social mobility to the lower classes has been a key mechanism to stabilize liberal (mass) democracy (Beck 1992, Streeck 2014). The welfare state in particular has enabled an unprecedented material-energetic expansion of societies under the Fordist model of development, which has been associated with a steep increase of energy and resource throughput termed the 'Great Acceleration' (Koch and Fritz 2014, Steffen *et al.* 2015, McNeill and Engelke 2016). The historical environmental state had been grafted on top of this structure with the primary purpose of remedying some of the most pressing environmental burdens that had resulted from the Great Acceleration. The environmental state thus continues to be a high-energy, high-throughput and high-emission state, and what looks like being the beginning of an energy transition toward renewables is so far more like an 'energy addition' of renewables to the existing fossil structure (York and Bell 2019).

These considerations raise substantial doubt about the still dominant narrative that a sustainability transformation could follow from an intensification or enhancement of the strategy of ecological modernization that is inherent to the environmental state. Cranking up the environmental state to accelerate the transition to low-carbon technologies (Langhelle *et al.* 2019) may turn out not to be sufficient to break through the structural barriers to sustainability. What might be required instead is a change of perspective and a renunciation of modernization thinking as the guiding principle of environmental politics. In the absence of the possibility to look beyond the environmental state from an empirically substantiated vantage point, scholars of transformation may need to re-equip their conceptual toolbox with ideas that start from the transformation side of things and dig their way back to the state, to democracy, and to novel ways of organizing society. What would a transformative democracy and a transformative state look like? And

what would be the first steps necessary on that journey? This volume should be understood as an invitation to join this explorative journey beyond the environmental state.

Beyond the environmental state: democracy, political economy, and culture

Any attempt to explore the political conditions of a sustainability transformation more deeply will have to consider at least the following dimensions of societal organisation: democracy as the means of deliberating options, articulating policies and making collective decisions; political economy as the underlying material structures of power; and culture broadly understood as the symbolic realm of meaning, from which norms, expectations, and beliefs emerge. The state is deeply enmeshed in all these dimensions and cannot be conceived as an independent entity. The liberal state, for example, is premised on the institutional and symbolic separation of the economy from the political sphere of collective decision-making. This construction of a specific political economy supporting (and enabling) the liberal state has far-reaching consequences for the model of democracy employed by the state and for the resulting liberal-democratic social imaginary that contains the symbolic representations of what citizens perceive as 'possible' or 'impossible', 'adequate' or 'inadequate' forms of change. On the one hand, the liberal-democratic state's separation of the economic from the political sphere allows for a historically unique stability of democracy, in that large parts of social reality are 'depoliticised' by rendering them subject to the anonymous, impersonal, objectified mechanisms of the market. This allows for a cooling off and a disarmament of the political realm in that the scope of contention within democratic institutions is limited to clearly defined areas of social reality. On the other hand, the specific configuration of the political in the liberal-democratic state results in a specific demarcation of the fields of 'possible' interventions from 'impossible' ambitions of political creation and comprehensive change. While this separation has an important stabilizing function, it also disables not only forms of comprehensive change that might be necessary for a socio-metabolic transition, but also relevant discourses and deliberations about far-reaching changes. According to this logic, any specific configuration of the nexus between the political economy, democracy and the state results in a related configuration of the realm of the 'possible' and its delineation from the 'impossible'.

This line of reasoning opens up some interesting pathways to be explored with regard to the political prospects of a purposive societal transformation: is the relationship between the state, political economy, and the democratic model as rigid as, for example, the Marxist tradition of state theory would have it (Marx and Engels 1970)? Or could institutional changes in the democratic model open up new trajectories of change that would ultimately also

transform the political-economic structures? Can the delineation between the 'possible' and the 'impossible' be dislocated by means of a new configuration of the relationship between state and democracy? Could, for example, new democratic institutions be invented that locate some of the power of decision-making in the public sphere rather than limiting democracy to being a function of the state? In what ways could a more deliberative model of democracy contribute to transformation? In what ways could a more agonistic one, placing stronger emphasis on the political as the realm of decision between incommensurable positions? How could democratic changes in the political economy of the state contribute to transformation without at the same time undermining past achievements of the welfare state and without rendering the entire structure unstable and crisis-prone? Knowing that many of these questions have been at the heart of democratic and state theory for many years, we believe that it is now time to reconsider them, with specific attention to their relevance for socio-ecological transformation. The historically specific functions of the environmental state cannot be extended at will to the task of a purposive societal transformation. Consequently, the search is on for ways of rendering state and democracy themselves more transformative in order to meet the challenges of what threatens to become a cataclysmic century.

The contributions to this volume

First, Daniel Hausknost introduces the problematic central to the discussions by developing his concept of the 'glass ceiling' of transformation. The glass ceiling refers to an invisible and unacknowledged barrier that prevents modern environmental states from undergoing the structural transformation needed for sustainability. Against the 'sustainability imperative' that some theorists see emerging as a next stage of environmental state development, Hausknost argues that states have accomplished what environmental improvement is compatible with their systemic imperatives – such as in those areas that affect human health and wellbeing. He argues that the glass ceiling inhibits any transformation that would go beyond the accumulation imperative intimately linked with modern states' legitimation, necessary though it would be to advance sustainability in areas of ecosystem vitality and long-term, less tangible threats such as climate change. The reason for this is that actual systemic sustainability contradicts states' functional allegiance to 'lifeworld sustainability' – the ramifications of actual (un)sustainability as they impact on people's sense of social security, cultural identity, and material wellbeing in their daily lives. The representative structure of state institutions forces them to pursue only such forms of change as do not openly degrade the perceived quality of the citizens' lifeworld. Thus, states are likely to engage in transformative action only once the unsustainable lifeworld of today is starting to decompose due to the effects of environmental change – and when deep intervention is becoming accepted as a necessary

reaction. One way out of the dilemma might be to experiment with alternative forms of democracy that render transformative change subject to more deliberative and direct-democratic modes of decision-making.

Against this backdrop, the contributions to this volume engage a number of literatures to articulate specific angles on the glass ceiling and to propose, discuss, or explore potential pathways towards sustainability that might move beyond it.

While Hausknost saw democracy as one of the potential pathways beyond the glass ceiling, Ingolfur Blühdorn complements his state-theoretical analysis with an account that characterizes democracy as precisely what inhibits socio-ecological transformation. Although political ecologists and environmental movements have long pinned their hopes for socio-ecological transformation on democratic procedures, Blühdorn argues that a legitimation crisis of democracy has turned it into a glass ceiling of its own, perpetuating a 'politics of unsustainability' as opposed to any radical eco-political transformation; the spectre of environmental authoritarianism is thus back in the picture as well. On the one hand, the complexities of modernisation and democratisation have given rise to 'ever more changeable perspectives on reality', including so-called 'alternative facts', which erode the supposed objectivity of science as a basis of ecological politics. On the other hand, a 'post-democratic turn' has rendered modern democracy normatively ambivalent and empirically dysfunctional; democracy's own commitment to emancipation has hollowed out its ideational points of reference around key notions such as truth, identity, nature, and reason. In this context, democratic legitimacy is tied to citizens' perception of self-realisation as an inalienable right, whose incompatibility with finite resources and a collapsing biophysical system is, if anything, engendering a politics of exclusion as opposed to egalitarianism and ecologism in the name of (redefined) democracy itself: a structural glass ceiling to both democratisation and sustainability transformation, which explains much of the present rise of populist politics as well as modern democracies' ineffective sustainability politics.

Richard Douglas similarly cautions against the hope that democratic participation will break the glass ceiling to transformation. Drawing on Terror Management Theory, he argues the intimations of mortality triggered by discussion of climate change prompt a powerful denialism. This, in turn, prevents political pressure from building up to demand the necessary, far-reaching – but in the capitalist context undesirable – changes, such as curtailments of consumer choice. Furthermore, the denial in citizens' minds regarding the state's incapacity ultimately to protect them perpetuates modern societies' secular belief system of immortality – a human psychological need. Thus, the glass ceiling of transformation has a psychological dimension. Questioning the idea of progress – 'the wider dream of an open-ended future of technological possibilities' – as sustainability requires, becomes an insurmountable challenge. The solution, then, cannot just be structural, as demanded by both Hausknost in this volume and

Robyn Eckersley (2004). For Douglas, breaking the glass ceiling implies the philosophical challenge of accepting that 'the entirety of the human project [is] limited and mortal', a troubling prospect in light of humans' deeply held need for identification with social collectives (such as the capitalist state) to provide meaning for their transitory existence.

Luigi Pellizzoni adds to the assessment of the glass ceiling of transformation from the perspective of 'the politics of time'. Pellizzoni sees the glass ceiling as the result of a prevailing form of anticipatory environmental politics that creates a 'messianic' temporality that obstructs any actual change. He distinguishes the different relations between projected futures and the present in the politics of prevention, precaution, deterrence, and pre-emption. He likens the politics that produces the glass ceiling of transformation to the pre-emptive politics of a present defined by a final event (eschaton) and its continuous postponement through a katechon: something that holds it back, but also prevents an actual resolution of the crisis. Pre-emption thus unleashes 'a constant experimentalism', but 'within a threshold that cannot be crossed' as the given order is ultimately protected through this apocalypticism re-oriented towards conservative purposes. This katechon is produced by the environmental state through its drawing on the policies of the status quo to address the crisis they have themselves produced; for example, emissions trading and solar radiation management as approaches to climate change. These kinds of technology appear to prepare us for the unexpected, but do so 'while reproducing the status quo within which the unexpected is itself contained', for it is 'proper innovation [that] threatens the ruling order'. What can help break the glass ceiling, then, is not to enter into the struggle for domination between the hegemon and a counter-power – which only reinforces extant domination – but to 'interrupt' the course of these politics by making it 'inoperative', and engage in the 'real utopias' of prefiguration as opposed to pre-emption.

Following Pellizzoni's focus on the role of time, Sophia Hatzisavvidou adds the linguistic angle to the discussion. Rather than on state imperatives and institutional structures, she focuses on how the language around environmental issues has evolved in neoliberal environmental states, arguing that it is via the medium of rhetoric that the state is re-invented, relationships between social agents and their environment constituted, and a particular common sense about the environment forged. Focusing specifically on Britain, by analysing speeches of former prime ministers Tony Blair and David Cameron and former deputy prime minister Nick Clegg, Hatzisavvidou shows how the environmental state – as a manifestation of neoliberalism – has based the idea of ecological transformation on 'neoliberal common places' as strategic 'inventional resources' that preclude actual transformation. They inscribed the values of economic valuation, efficiency, and competitiveness not only into environmental policymaking, but into the entire 'normative order of reason', thus extending it to 'every dimension of human life'. In this way, the distinct

vocabulary of this discourse created a way of talking about the environment that reflects, reproduces, and reinforces the norms of the neoliberal state. For example, by extending economic competition to the domain of nature and using quantifiable and thus ostensibly indisputable environmental policies, alternative environmental sensibilities are sidelined. Transformation beyond the glass ceiling would require undoing this fabric and inserting a new, transformative rhetoric into 'green common sense'.

Max Koch turns to the prospect of how environmental states, despite their limitations, can break their glass ceiling by overcoming the neoliberal growth imperative and transitioning towards a sustainable post-growth economy. Drawing on empirical studies that show degrowth is necessary for sustainability, Koch zooms in on the glass ceiling that is hit whenever environmental states begin to challenge economic growth. Materialist state theory explains the role of the state in both enabling and legitimating the capitalist growth economy, including by shaping the societal power relations that stabilise it. However, as this means the state is structurally beset with contradictory functions of enforcing discipline – its political function – and promoting social inclusion – its ethical function –, a 'condensation of societal struggles' within the state opens up a political conjuncture that bottom-up mobilisation of social movements can exploit to initiate change. Whereas the advanced environmental states today embody the ideology of 'ecological modernisation' – the idea that environmental policies can be good for business – a wider 'qualitative system change' towards new state roles in a post-growth, steady-state economy with a sustainable welfare approach can thus be envisioned. Here, a 'steering state' would set narrower limits for markets to operate in, but also itself submit to greater 'institutional diversity', becoming 'primus inter pares in … a governance network of public, collective, communal and private actors'. Internationally, global production and trade systems would be re-oriented towards cooperative principles and local production and consumption cycles. It is such a combination of top-down regulation and bottom-up mobilisation, Koch argues, that promises to shift the state away from the provision of growth and towards a welfare role addressing the injustices resulting from climate change.

Sanna Ahvenharju also contributes to the discussion of the 'possible' and 'impossible' with an empirical study of the prospects for a radical shift in consumption policy in Finland. Consumption policy arguably is one of the key areas of sustainability transformation where the negative impacts on the earth system could have been more efficiently addressed with the tools available to environmental states. Hence, the case study explores the potential acceptability of strong sustainable consumption policy instruments among Finnish elites. Whereas weak sustainable consumption policy, Ahvenharju explains, aims only for greater efficiency and focuses on individual responsibility, strong sustainable consumption policy targets structural and institutional patterns

and the overall level of consumption; examples include stringent bans, taxes, quotas, new structures for sharing, and lower working hours. The study used surveys as well as interviews with Finnish elite representatives – members of parliament and government as well as business, science and media representatives – to explore their preparedness to adopt hard (i.e. mandatory), non-technological policies for radically reducing consumer demand for natural resources. The study shows that strong consumer-oriented policies are not necessarily considered 'impossible'; instead, there was wide interest and support for the development of stronger and novel policies, although currently softer policies were considered more acceptable among the elite representatives. The key to a radical transformation of consumption is seen to be a gradual but determined development towards a wider variety of stronger policies targeted at consumers – as well as service providers, businesses and the state – as opposed to the narrower consumer responsibility approach of conventional sustainable consumption policy.

The final two contributions turn to normative democratic theory to articulate what political foundations promise to engender these politico-economic and policy transformations.

For Amanda Machin, the emergence of radical alternatives to the status quo hinges on an 'ecological agonism' able to disrupt unsustainable conventions and engage citizens in lively debate. Against those – such as Blühdorn in this volume – who see democratic institutions as part of the glass ceiling, Machin argues that democracy can and must be rescued from scientist-technocratic imaginaries; the aim should not be to jettison or overcome the disagreements inherent to democratic life, but rather to respect and express them. Whereas others – including Hammond in this volume – have recommended deliberative spaces for this, for Machin, it is only agonism that can 'grapple with the irreducible and troubling disagreements … inevitably provoked by environmental issues'. In the context of debate about a glass ceiling of transformation, disagreement makes a vital contribution to environmental politics by opening up opportunities to challenge the status quo. State institutions thus become both sites and objects of democratic contestation. They are sites in that the context of legitimate state institutions stops disagreement from becoming 'destructively antagonistic' but they are also targets of contestation because of the social and political power they concentrate, exclusions from which mere deliberative or participatory processes would fail to account for. The vital challengers to the status quo – those actually breaking the glass ceiling – 'are precisely those that exceed the political realm, that take the establishment by surprise, disrupting normal politics, stalling deliberations, demanding entry and provoking change'. There is a need, then, for forums of politics as 'rowdy spaces that are never fully rational or inclusive', in which no consensus is produced, but recognition is fostered that environmental practices and 'ways of being' could always

be different, and the prevailing power structures preventing their emergence thus democratically reconfigured.

Marit Hammond agrees with Machin's insistence that breaking the glass ceiling of transformation requires disruptions of conventional 'ways of being' and the power structures that uphold them, and that democratic contestation promises to fulfil this critical function. She argues that sustainability itself must be understood as a general societal transformability in this sense, and emphasises that transformation must be not just material or technical, but cultural in character – relating to deeply held norms and understandings, and thus to what Machin has referred to as entrenched 'ways of being'. Culture is the space of 'meaning-making', and inasmuch as one dimension of the glass ceiling consists in an overly narrow perception of society's possible future pathways, cultural meaning-making is vital both in a semantic and in a normative sense: a transformation of semantic meanings to overcome the powerful 'political grammar' that locks society into a given status quo, and a transformation of normative meanings to move beyond those associated with material growth. As such, it is in the realm of culture that the transformative process towards sustainability must play out. While culture is in constant flux, this makes the conditions for an open and normatively driven evolution of meanings an important political foundation for sustainability. For Hammond, deliberative democracy is crucial as the form of democracy oriented towards the fairest, most inclusive public discourse. It is a space in which individuals can reflect on their views in a manner unconstrained by hegemonic domination. For the sake of transformability, this must be the goal: not to orchestrate deliberation in a way that stays within the boundaries of the current hegemony, or to replace the extant form of hegemony with a counter-hegemony, but to reduce hegemonic domination as such. Only the perpetual 'democratisation of democracy' that deliberative theory calls for achieves this, by providing the greatest possible room for reflexivity against the domination implied by *any* glass ceilings.

Taken together, the contributions to this volume make a strong case for a renewed interrogation of the limits and capabilities of the environmental state, including its democratic institutions. They offer various angles – ranging from state theory to political philosophy, political economy, democratic theory and discourse theory – from which to explore the structural barriers to socio-ecological transformation in modern democratic states and the prospects for overcoming them. Overall, our intention is to initiate a new conversation among scholars of environmental politics about the state's capacity to push a deep transformation of society and about the institutional (democratic, political-economic and cultural) requirements for a transformative environmental politics that moves beyond the limited successes of hitherto environmental states. This should be regarded as an invitation to join the conversation

and to further explore the political prospects of a deep sustainability transformation in times of a dramatically accelerating decay of the biosphere.

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