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Ungoverning the climate

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ABSTRACT

In this article I canvass four kinds or ‘modes’ of ungovernance, which I characterise as *agnostic*, *experimental*, *inoculative*, and *catastrophic*. I then turn to climate change, and the questions of climate governance and climate equity, which, I argue, exemplify each of these four modes in different ways. The fact of climate change might be characterised as the *materialisation of ungovernance*, insofar as it is the incidental or accidental outcome of an aggregate of rational decisions underpinned by a vast but selective regulatory apparatus. But more poignantly, the international law apparatus that has grown up around the climate problem presumes and embeds uncertainty regarding any resolution.

KEYWORDS Climate change; climate governance; equity; IPCC; ungovernance

1. Climate governance: climate ungovernance

Any claim to ‘governance’ must presumably make an initial assumption that the thing to be governed may become a viable object of law—that it is, in short, governable. Is the climate governable?¹ As a matter of science, climate change is an observable phenomenon resulting from the interaction of a great diversity of identifiable natural and human processes, together comprising a climate ‘system’. As a matter of law, the climate problem can only be conceived by recalling a vast array of largely unrelated activities, themselves regulated across multiple jurisdictions and subject to varying

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¹ The literature on ‘climate governance’ is now extensive. For eg: Frank Biermann, Philipp Pattberg and Fariborz Zelli, *Global Climate Governance Beyond 2012: Architecture, Agency and Adaptation* (Cambridge University Press, 2010); Sverker C Jagers and Johannes Stripple, ‘Climate Governance Beyond the State’ (2003) 9(3) *Global Governance* 385; Daniel H Cole, ‘From Global to Polycentric Climate Governance’ (2011) 2 *Climate Law* 395; Matthew J Hoffmann, *Climate Governance at the Crossroads: Experimenting with a Global Response after Kyoto* (Oxford University Press, 2011); Joanne Scott, ‘The Multi-level Governance of Climate Change’ (2011) 5(1) *Carbon Climate Law Review* 25; Jacqueline Peel and others, ‘Climate Change Law in an Era of Multi-Level Governance’ (2012) 1(2) *Transnational Environmental Law* 245; Kenneth W Abbott, ‘Strengthening the Transnational Regime Complex for Climate Change’ (2014) 3(1) *Transnational Environmental Law* 57; Babette Never, ‘Regional Power Shifts and Climate Knowledge Systems in (Global) Climate Governance’ (2010) 2(1) *Goettingen Journal of International Law* 311; Massimiliano Montini, ‘Re-shaping Climate Governance for Post-2012’ (2011) 4(1) *European Journal of Legal Studies* 8; Harriet Bulkeley and others, *Transnational Climate Change Governance* (Cambridge University Press, 2014).

economic and normative presuppositions. So, we have a ‘system’, on one hand, in the science, and an ‘infrastructure’ (we might call it), on the other, in the law. Although the regulatory infrastructure of climate law is not entirely uncoordinated, it is also non-purposive—this would be true even if we believed that a principal point of a carbon-intensive economy is its own furthering.² No doubt, the interactive network of human activities that gives rise to the phenomenon of systemic climate change is incidental, accidental or merely incoherent—it is not, at any rate, intentional. But this would appear to problematise the whole notion of ‘climate governance’.

For this reason, perhaps, the Intergovernmental Panel on Climate Change (IPCC), taking stock of the literature, defines governance broadly, as ‘processes of interaction and decision-making among actors involved in a common problem’.³ But when it comes to explicit climate-related objectives, the IPCC finds governance to be ‘lacking’, ‘needed’, ‘ineffective’, a ‘challenge’ or indeed a ‘key impediment’ (that is, existing ‘governance’ structures are themselves an impediment to governing the climate).⁴ This is correct, no doubt. But the activities that cause, as well as those that address, climate change are structured, organised, effective, facilitative and, of course, lawful—and they continue apace. Are greenhouse gas emitters not also ‘involved’ in the ‘common problem’ of climate change? And if so, ought we to mean by ‘climate governance’ a space in which laws and regulations structure activities that cumulatively produce, alter, destabilise, and (perhaps) restabilise the global climate system? Rather than, say, a space wherein the climate itself is purposively ‘governed’—which it clearly is not?

In this article, I will ask whether the problem of climate change might better be understood from the perspective of ‘ungovernance’, by which I mean the provisional, strategic or self-conscious refusal of mechanisms of control in contexts of institutional purview. I take the term ‘ungovernance’ from Andrew Lang and Deval Desai, and hope to give it some specific impetus and content by reference to the climate problem.⁵ At first blush, the climate appears ‘ungoverned’ in two obvious respects. First, insofar as the phenomenon of climate change is an unintended (but preventable) consequence of a series of decisions *not* to manage it or the processes that produce it—stemming perhaps from a habit of, or even a commitment to, something we might call ungovernance. Second, insofar as the specific

² See Andreas Malm, *Fossil Capital* (Verso, 2016), especially 309–326.

³ Valerie Masson-Delmotte and others (eds), *Global Warming of 1.5°C. An IPCC Special Report* (IPCC, 2018) 352 (citing earlier IPCC reports). This definition, the report adds, ‘goes beyond notions of formal government or political authority and integrates other actors, networks, informal institutions and communities’.

⁴ *Ibid.*, 17, 95. The report sets much store in what it terms ‘enhanced multilevel governance’ (354, 355, 384).

⁵ I provide more detailed definition further below, Section 3. See Deval Desai and Andrew Lang, ‘Introduction: Global Un-Governance’ (2020) 11(3) *Transnational Legal Theory*, this issue.

international law regime constructed to contain climate change itself has repeatedly reverted to mechanisms of non-control, refusing the kinds of strictures and institutions historically associated with ‘government’. I will examine each of these phenomena and will argue that in fact a reflexive ungovernance runs through climate law and the broader climate problem, traceable through various specific elements of what is sometimes called the climate ‘regime-complex’.

In what follows, I suggest in the next section that to think sensibly about climate and governance together, we need to identify the constituent elements of an extensive web of interlinked regulatory apparatuses (and ‘systems’) that collectively underpin the global climate trajectory. I then (in Section 3) turn to the notion of ungovernance, identifying four possible modes in which we might conceive it. In subsequent sections (4 through 7), I explore the degree to which existing elements of the climate law apparatus enact these modes, before concluding in Section 8.

2. Climate governance: a knowledge problem

As a real-world phenomenon, one in which the global climate is *in fact* changing over time, climate change presents first as a knowledge problem, calling for increasingly precise detail across myriad terrains and applying intelligent mapping between them. No doubt governance is always initially an epistemological concern: to thematise governance, something must first arise as known or (in principle) knowable—the consequence, intended or not, of structured activities—something to be managed, or assuaged, or assessed, or understood, or predicted, or prevented. In the case of climate change, a community of scientists and modellers have worked for several decades to produce a map, or set of maps, imposing shape and boundaries on climate knowledge. The map is, in some respects, literally a *map*—insofar as the knowledge is tied to specific loci, dependent upon precise on-the-ground measurements at regular spatial and temporal intervals around the globe, and projecting both backwards and forwards in time.⁶ The map that now exists displays at a minimum a relatively clear and shared understanding of the parameters of the mapping exercise itself. Continual extension, refinement and revision of this map is the work of the IPCC—a forum whose elaborate procedures permit the compilation of the vast quantities of observation, analysis and prediction that today comprise the field of climate

⁶ The IPCC’s Sixth Assessment Report concretises the cartographic dimension of IPCC work through the instantiation of an interactive ‘atlas’. A thorough account of the historical construction of the climatological map—dwelling in particular on the extensive work to produce local site-specific knowledge *everywhere* in order to create a single viable global picture—is provided in Paul N Edwards, *The Vast Machine* (MIT Press, 2012).

science, which they then distil, systematise and articulate into ‘policy-relevant’ prose.⁷

But the IPCC does not ‘govern’ climate policy. It maps a terrain, and does so for ‘policy-makers’. Are there, then, a group of policy-makers who collectively, in some manner, perform ‘climate governance’? Let’s see. As a policy matter, the science, politics and economics of climate change focus the work of several—very many in practice—participants that largely orient themselves with regard to the IPCC’s map-in-progress and aim explicitly to reshape the regulatory context in response. These include governments, of course, but also international organisations, science and research institutions, NGOs, even some corporations. The map itself—that is, the specificity, detail and scope of IPCC reports—also references a great number of these putative sites of governance, as it must, since the rate and kind of changing natural phenomena, in specific places and over time, are themselves inextricably connected to actual economic and technological decisions and practices, which are themselves embedded within policy frames.⁸ So there is a feedback loop: various institutions and actors act upon the knowledge produced by the IPCC; the IPCC compiles and extrapolates data from these activities.

Which institutions, which actors? It seems natural to revert to the language of ‘regimes’ here, but a glance at the by-now copious IPCC materials will uncover a preference for the terms ‘systems’ or ‘sectors’ rather than regimes: there are ‘natural’ systems and ‘ecosystems’, on one hand, and managed or quasi-managed systems, on the other: energy, transport, building, agriculture, forestry, food.⁹ The mapping exercise sketches these systems in a manner that responds to the data needs of knowledge-generation itself: global energy, food or agricultural systems consist of a great number of interlocking parts and processes, some of which are constructed to fit and work together; many are not. Systems are not regimes though they may comprise or encompass regimes. So, for example, some elements of a ‘global transport system’ are regime-like: take the combination of treaty-based rules and member-agreed standards that govern international air

⁷ A full account of the IPCC as an authoritative and novel international norm-generating body has yet to be written. In the meantime, an excellent text is Clark A Miller, ‘Climate Science and the Making of Global Political Order’ in Sheila Jasanoff (ed), *States of Knowledge: The Co-Production of Science and the Social Order* (Routledge, 2004), 46–66.

⁸ See eg, IPCC (n 3) 352–380. The IPCC’s SR15 devotes lengthy passages to ‘governance’, referencing texts that often themselves rely heavily on the work of the IPCC.

⁹ See eg, *ibid.* Using the blunt tool of wordcounts, the IPCC’s SR15, a relatively short report (630 pages as against the 3,000+ pages of the Assessment Reports), includes 2,112 references to the term ‘system’ and over 700 references to ‘sectors’, as against 51 to ‘regime’. There are over 600 references to ‘ecosystems’, over 100 to ‘energy systems’ and over 60 to ‘food’ or ‘agricultural’ systems. In the main, however, terms like ‘transport’, ‘energy’, ‘food’, ‘industry’, ‘agriculture’, and ‘buildings’ are used to indicate global systemic activity without qualification as either ‘system’ or ‘sector’ (much less ‘regime’).

traffic.¹⁰ Others are less like regimes: car *use*, viewed globally, is not a regime, even though car *design* everywhere follows comparable standards. The global energy system includes centralised regimes acting in concert—in the special case of petroleum—on one hand: oil-producing states, cartels, companies, pipelines and transport networks for example. On the other, a looser-knit infrastructure underpins most other energy sectors, in which any shared parameters are set by national regulators, markets, and/or standards for interoperability. So, we have global commodity and market infrastructures, on one hand—in oil and aviation, say—interacting with national ‘sectoral’ regimes, on the other.

So then, what exactly is to be governed in ‘climate governance’? The IPCC’s sectors and systems may be obvious candidates—forests, the Antarctic, technology, the Tundra, energy, transport, food, and so on. But as we’ve noticed these align poorly with actual regulatory practice. A next obvious possibility might be the set of activities that comprise the policy-domains of mitigation and adaptation respectively, the principal pillars of the *United Nations Framework Convention on Climate Change* (UNFCCC). In fact, much of the climate governance literature defines ‘governance’ to encompass *both* these two areas of policy.¹¹ But mitigation and adaptation raise fundamentally dissimilar policy concerns, deal with different subject matters and have essentially unrelated goals.¹² Lumping them together seems both unwieldy and incorrect. It is climate mitigation alone that touches on the trajectory of the ‘global climate system’; climate adaptation is concerned with our local human systems, in dialectical response, here down below.

Should we, then, limit our use of the term ‘climate governance’ to what we might call the mitigation policy complex? Globally, mitigation is the aspiration, in the language of the UNFCCC and its Paris Agreement, to ‘stabiliz[e] greenhouse gas concentrations in the atmosphere’ with a view to ‘[h]olding the increase in the global average temperature to well below 2 °C above pre-industrial levels’.¹³ On this basis, the legal and policy institutions that comprise ‘climate governance’ would be all those whose actions and

¹⁰ Through the International Civil Aviation Authority and the International Air Transport Association.

¹¹ See eg, Jagers and Strippel (n 1) 385. Jagers and Strippel define governance as: ‘all purposeful mechanisms and measures aimed at steering social systems toward preventing, mitigating, or adapting to the risks posed by climate change’. See too Bulkeley and others (n 1) 14–21; Hoffmann (n 1) 12.

¹² Mitigation policy is concerned with the limitation and stabilisation of greenhouse gas concentrations in the atmosphere (globally); adaptation with guiding and altering the economic and living conditions appropriate to a warmer world (locally). It is true that ‘mitigation’ technologies constitute a form of adaptation, insofar they also entail adaptation to a low carbon world, and that adaptation policies have a mitigation dimension, insofar as they must factor in their greenhouse gas contribution. This does not, however, disturb their conceptual distinctiveness; indeed, it rather reinforces it.

¹³ United Nations Framework Convention on Climate Change (adopted 4 June 1992, entered into force 21 March 1994) 1771 UNTS 107 [UNFCCC], art. 2; Paris Agreement (adopted 12 December 2015, entered into force 4 November 2016) FCCC/CP/2015/10/Add 1, art. 2.

decisions impact directly upon the *stability* of greenhouse gases in the atmosphere. Indeed *any* structured and regulated greenhouse gas emitting activity presumably contributes to the ‘government’ of the climate. This must include, to take an obvious example, those that sustain fossil fuel use and increase emissions, as well as those that curb carbon: OPEC and ExxonMobil as well as the Green Climate Fund. Viewed this way, it is quickly obvious that many actors appear on both the ‘emitting’ and the ‘mitigating’ sides of the ‘stabilisation’ equation: most if not all states, many ‘carbon majors’, and numerous financial and investment entities such as the World Bank and sovereign wealth funds.¹⁴ Together, we might surmise, these entities comprise a great global carbon regulating machine, one within which emissions increase and reduce, and might in principle be stabilising—but, and of course this is the point, are not.¹⁵

Finally, climate governance also takes place at the level of law and language: the normative assumptions and practical associations that accrue around terms of art in climate science and law, and the networks of actors and institutions that orient themselves with regard to these terms, often with specific or shared goals in view, and which become loci for the refinement and reorientation of terms of governance in a manner that consolidates, over time, with practical consequences. Take, for example, the notion of a global carbon budget, the question of offsets, concerns regarding human rights, debates on technology transfer, and the ‘principle’ of equity. In each case, a broad community of knowledge and/or practice has articulated a set of evolving norms or rules, goals and assumptions, that consolidate and disaggregate over time.

To approach this world of institutions and actors in terms of climate governance, it is clear, involves an attempt to grasp a totality comprising a vast number of working parts, whose relation to one another is ad hoc, labile, frequently unacknowledged and sometimes unknown.¹⁶ But an immediate observation is that among this set of climate-relevant regimes, those most relevant to the climate map—and most consequential for the climate system—alter the weather not by design but as a side-effect. In other words, the institutions most involved in the *actual* governance of the

¹⁴ To give a stark example, the *Financial Times* reports that the natural resources giant BHP intends to ‘spend up to \$4bn to reduce environmental footprint but will still invest in oil and gas’. Neil Hume, ‘BHP Targets 30% Cut in Carbon Emissions by 2030’ *Financial Times* (London, 10 September 2020).

¹⁵ This complexity is underlined in the claim that the burgeoning (and presumably adversarial) space of climate-related litigation itself forms part of ‘climate governance’. See eg Jacqueline Peel and Hari Osofsky, *Climate Change Litigation: Regulatory Pathways to Cleaner Energy* (Cambridge University Press, 2015) 10–16: ‘climate change litigation matters in overall climate governance because of the significant part it can play, is playing, and is likely to play in shaping decision making and the regulatory landscape relating to climate change across various levels of governance’.

¹⁶ It is this circumstance that gives rise, in much of the existing ‘climate governance’ literature, to the centrality of terms such as ‘polycentric’, ‘multilevel’, ‘experimental’, and ‘fragmented’. See Cole (n 1), Scott (n 1), Peel (n 1), Hoffmann (n 1) and, also on polycentricity, Elizabeth Fisher, Eloise Scotford and Emily Barritt, ‘The Legally Disruptive Nature of Climate Change’ (2017) 80(2) *Modern Law Review* 173.

climate system are not, in the main, seeking merely to reduce carbon (here I take issue with much of the existing climate governance literature).¹⁷ The terrain of climate governance is, from this perspective, more like an arena, or even theatre, than a machine, on which is staged a drama concerning the ‘stabilization of greenhouse gas emissions in the atmosphere’.¹⁸

The result, viewed from the IPCC’s perspective, is a bit of a mess.¹⁹ But are there angles from which it appears less irrational? I suggest the notion of ungovernance may be useful here in avoiding the blindspots of much of the existing climate governance literature. The point of asking about ungovernance is not simply to acknowledge policy incoherence; it is to frame the system-level effects of this set of apparently uncoordinated regulatory infrastructures, and ask how their interaction may be understood as necessary, rational or useful rather than contingent, irrational, erroneous or unavoidable.

3. Four kinds of ungovernance

“Global ungovernance”, according to Andrew Lang and Deval Desai, is ‘an iteration of “global governance”’.²⁰ It is an iteration they mark with four distinctive characteristics: (i) it operates in the context of ‘big visions’ (such as ‘the market’ or ‘the rule of law’) that lack ‘adequate ... pathways of attainment’, and which (ii) thus suffer from an ‘impossibility of closure’ (in that ‘institutional structures’ cannot be matched with ‘desired outcomes’), leading to (iii) a ‘commitment [both] to pursue closure and to embrace its impossibility’, and with the result that (iv) ‘success’ is measured not in terms of the ‘ability to build institutions’ but rather of the ability to pragmatically and continually ‘rearrange’ the initial ‘big visions’.

Aware that this novel and fecund concept is evolving as I write, I will adopt a necessarily provisional approach to ungovernance, in the hope of contributing to its enrichment. To build on Lang and Desai’s provocative insight, I am positing four possible non-exhaustive ways in which we might characterise the phenomenon of ungovernance. The four are speculative and non-assimilable—they do not tend in the same direction; they coexist without coordination; their uncoordinated coexistence is itself, one might say, symptomatic of the relinquishment of control suggested by the term

¹⁷ For eg, Bulkeley and others (n 1) 18; Hoffmann (n 1) 12; Jagers and Strippel (n 1) 385. Bulkeley and others focus on those initiatives that ‘explicitly [seek] to address climate change’. As do Hoffmann, and Jagers and Strippel. Others apply the same criterion albeit implicitly. See eg, Bierman and others (n 1); Cole (n 1); Montini (n 1); Abbott (n 1); Scott (n 1).

¹⁸ The point is (almost) captured in Bierman and others, who outline a model ‘conflictive’ governance architecture, comprising (1) ‘different, largely unrelated institutions’ having (2) ‘core norms conflicts’ and with (3) ‘major actors supporting different institutions’—but they then, curiously, do not categorise climate governance as ‘conflictive’. See Bierman and others (n 1) 18–21.

¹⁹ See text at note 4 above.

²⁰ Lang and Desai (n 5).

‘ungovernance’. With these four in view, I will then return to climate change and climate law, and—within it—the notion of equity, to illustrate these four modes of ungovernance.

First, most obviously (but perhaps least interestingly), is the explicit embrace of non-closure as a governmental posture. This now common attitude is best articulated in the explicit embrace of agnosis in the Austrian school of economics, for whom the work of government is not, in the final analysis, to establish, but rather to relinquish, control. Friedrich Hayek provides the classic formulation:

In our age, with its passion for conscious control of everything, it may appear paradoxical to claim as a virtue that under one system we shall know less about the particular effect of the measures the state takes than would be true under most other systems and that a method of social control should be deemed superior because of our ignorance of its precise results. Yet this consideration is in fact the rationale of the great liberal principle of the Rule of Law.²¹

Here, the ‘impossibility of closure’ is taken as given and ‘embraced’ as such. In the swirl of policy interventions drawing on Hayek’s work since the late 1970s, and today often referred to as ‘neoliberalism’, ungovernance lies in the more or less conscious dismantling of functional institutional systems over time, such that their capacity to govern is ultimately and incrementally undone.²² This is the *disappearance or recession of law* from the policy space: recent examples include the adoption of austerity policies in several countries, starving institutions of resources to the point that they must close and disappear—but its signature is present wherever regulations are dismissed as ‘red tape’ and bureaucracy as ‘sclerotic’.²³ This embrace of agnosis entails a mode of ungovernance involving law in the production of non-law, or anomie—in theory at least.²⁴ In the real world, the relinquishment of controls in one area is often counterbalanced by increasing controls elsewhere: fewer labour protections here, more criminal controls there; fewer cross-border capital controls here, greater cross-border migrant controls there, and so on.²⁵ Ungovernance *here* appears to require more governance *there*.

Second, there is the ungovernance of the laboratory; regimes that arise not out of the embrace of ignorance *per se*, but out of the recognition of the *extent* of ignorance or uncertainty in a given case, generating uncertainty

²¹ Friedrich Hayek, *Road to Serfdom* (University of Chicago Press, 1994) 78. The line of thinking goes back to Hayek’s teacher, Ludwig von Mises.

²² See Stephen Humphreys, *Theatre of the Rule of Law* (Cambridge University Press, 2010) especially chapters 4 and 6.

²³ For an intriguing analysis, Jonathan White, ‘Emergency Europe’ (2015) 63(2) *Political Studies* 300.

²⁴ See Fleur Johns, *Non-Legality in International Law: Unruly Law* (Cambridge University Press, 2013) especially chapters 1 and 4. Johns is specifically concerned with the role *international* law and lawyers play in ‘making non-legality’ (1), but the argument applies equally to bodies of law that are not explicitly ‘international’.

²⁵ Humphreys (n 22) especially chapter 5.

over governance stratagems—cases in which an ‘impossibility of closure’ is a practical rather than theoretical matter, but one ultimately to be overcome.²⁶ Governance in such cases would aim at the foreseeability or, perhaps urgently, *stabilisation* of a set of conditions whose instability or capacity for destabilisation is their principal immediate feature. Ungovernance in this mode inverts the precautionary principle, articulating the notion that ignorance is provisional (if unavoidable) and may be productively contained and bounded pending greater knowledge.²⁷ If so, ungovernance would refer to the provisional nature of boundary-construction, aiming to stabilise a space within which the still-unknown or poorly understood can be observed and tested in a relatively controlled environment. This is similar to the move Fleur Johns describes as ‘from planning to prototype’.²⁸ Ungovernance in this mode, as laboratory, has the ‘governor’ adopting an open-ended project orientation, equivalent, as Johns points out, to the business model of a ‘lean start-up’.²⁹ It involves the creation of relatively stable spaces wherein instability or destabilisation may be monitored, or even introduced experimentally.³⁰ Ungovernance here is fundamentally an *epistemological strategy*, in which law is mobilised as a provisional technique for containing and ideally surmounting ungovernability. Albeit intended only provisionally, the creation of such a space risks sliding into permanence: the mobile lab as immobilised prefab.

Third, are the many cases in which the turn to ungovernance is implicit and unstated, with the effect of diverting attention away from the thing thereby ungoverned. In certain areas of law and policy, explicit policy goals are claimed and apparently targeted, but the apparatus constructed to achieve those goals cannot obviously do so, and does not, on inspection, appear intended to do so.³¹ The law does not do what it says on the tin—but it nevertheless does *some* work in isolating troublesome matters from infecting wider policies. This is perhaps ungovernance as inoculation—burdened with the task of curbing contagion.

²⁶ Lang and Desai (n 5).

²⁷ See David Gee and Andrew Sterling, ‘Late Lessons from Early Warnings: Improving Science and Governance under Uncertainty and Ignorance’ in Joel Tickner (ed), *Precaution, Environmental Science, and Preventive Public Policy* (Island Press, 2003).

²⁸ Fleur Johns, ‘From Planning to Prototypes: New Ways of Seeing Like a State’ (2019) 82(5) *Modern Law Review* 833. Also see London School of Economics and Political Science, ‘From Planning to Prototypes: New ways of seeing like a state – Professor Fleur Johns’ (14 February 2017), podcast, online: <<https://www.youtube.com/watch?v=H2n56th-cEY>>.

²⁹ *Ibid.*, 854–6. Johns further describes: ‘In brief, a lean start-up approach favours “experimentation over elaborate planning, customer feedback over intuition, and iterative design over traditional ‘big design up front’ development”’ (855) (citing Steve Blank’s ‘Why the Lean Start-Up Changes Everything’, *Harvard Business Review*, May 2013).

³⁰ See Stephen Humphreys, ‘Laboratories of Statehood’ (2012) 75(4) *Modern Law Review* 475.

³¹ See eg, Stephen Humphreys, ‘Structural Ambiguity: Technology Transfer in Three Regimes’ in Margaret Young (ed), *Regime Interaction in International Law: Facing Fragmentation* (Cambridge University Press, 2011).

Another way of imaging this form of ungovernance is law as a black box. There are many examples in international law of the creation of black boxes into which recalcitrant ‘issues’ may be parked with the effect of neutering their potential to derail other priorities. In some cases, legal terms of art may evolve into entire fields of discursive activity, which apparently function as zones of perennial indeterminacy, into which well-meaning scholars and practitioners may disappear together with the energy, insight and motivation which, were they applied to purpose, might upset hegemonic distributive regimes. In other cases, elaborate normative and discursive frameworks are constructed, more or less consciously, such that their scope becomes unwieldy or even contradictory, and their institutional apparatuses become overburdened with iterative attempts to ground or reframe a discourse rather than loci of governance in any meaningful sense.

An obvious example of this mode of inoculative ungovernance is the vast and still expanding edifice of institutional activity nominally constructed to ensure universal ‘social and economic rights’ that, in the main, not only fails to do so, but effectively absorbs the time and energy of a great many interested parties. Others might include the laborious debates and endless normative manoeuvres relating to, for example, business and human rights among NGOs, or civilian immunity in the law of armed conflict, or the ‘right to development’ as it plays out endlessly and apparently without irony at the United Nations. Contained in the airy halls of the *Palais des Nations*, there is little risk of real-world contagion from these potentially disruptive norms.

I have elsewhere examined how international legal articulations of ‘technology transfer’ in various different regimes pull in contradictory directions with the result that, insofar as something characterisable as technology transfer actually takes place internationally (which of course it does), it is rather in spite of, or at least without reference to, the endless legal and institutional attention given to this term of art in international fora.³² Such regimes nevertheless comprise multiple zones of often intensive activity undertaken by small armies of intelligent and well-meaning lawyers and activists. Ungovernance here would refer to *rhetorical practices* that siphon off, or drain, potential dispute in putative policy spaces. It is insofar as the law here provides a small measure of something (equity or social rights, for example) in order to prevent more of that thing becoming routine, that it might be characterised as *inoculative*.³³

³² *Ibid.*

³³ What I have in mind here is metonymic, rather than exemplary, of the larger ‘immunological’ function of law described by Roberto Esposito, for whom ‘the primary goal of law is to immunize the community’ by ‘preserv[ing] peaceful cohabitation among people naturally exposed to the risk of destructive conflict’. Roberto Esposito, *Immunitas: The Protection and Negation of Life* (trans Zakiya Hanafi, Polity, 2011 [2002]) 21–2. For Esposito, in order to preserve the community, ‘law empties community of its core meaning’ by insuring against expropriation, which is ‘community’s most intrinsic, natural inclination’ (22). If we accept this, the ‘inoculation’ I envisage here inverts Esposito’s elegant model,

A fourth mode in which ungovernance may prevail, less subtly but perhaps more effectively, resides not in regimes, *per se*, but in political gestures and events that have the effect of destabilising functioning regimes. Here I am referring not to the gradual unwinding of existing governance systems (the hallmark of my first mode above), nor to the casting of a contained experimental zone of instability (my second), nor to the inability of the law to do what it claims to want to do (my third), but rather to the sudden reorientation of a policy framework in such a way that existing structures cannot function, and with the effect of generating a space of relatively uncontrolled chaos or conflict. This is the imposition of an *event*, as a site of a politics that is disruptive of law, or at least law in its habitual role as stabiliser.³⁴ Obvious examples include acts initiating war—the invasion of Afghanistan in November 2001 and of Iraq in March 2003, the latter in particular operating as a site for the reorientation of broad local economic and global legal norms.³⁵ But the status-quo expectation of a legal order can also be destabilised by more modest events, such as the UK's referendum on Brexit in 2016, one of whose effects, for example, was to generate currency fluctuations that themselves became a source of investment activity. Instability has its uses.³⁶ Ungovernance is here a *normative strategy*, the *renegotiation of law* or the *normative redefinition of the governable*. We might describe this mode of ungovernance-as-rupture as *catastrophic* in tenor.

Clearly these four modes do not tend in the same direction. They are not mechanisms of coordination, but of uncoordination. They indicate rather an oscillation between the strategies of stabilisation and destabilisation, and the vying attractions of stability and of instability. But each of these four strategies of ungovernance—agnostic, experimental, inoculative, and catastrophic—is nevertheless, I believe, relevant to climate change and climate law, as I will now show.

4. Ungovernance materialised: the changing climate

Climate change—the phenomenon itself—comes about through directed human activity, what we have come to call 'anthropogenic interference with the climate system', as unintended consequence.³⁷ Climate change is

creating a legal space wherein the inevitable contamination of communitarianism can be contained and monitored, but remaining a form of 'exclusionary inclusion' (8).

³⁴ There is a thoughtful discussion in the Introduction to *Events: The Force of International Law*: 'An event "in the strong sense" [quoting Jacques Derrida] would suppose an "irruption that punctuates the horizon, interrupting any performative organization, any convention, or any context that can be dominated by a conventionality. Which is to say this event takes place only where it does not allow itself to be domesticated.'" Fleur Johns, Richard Joyce and Sundhya Pahuja (eds), *Events: The Force of International Law* (Routledge, 2011) 8.

³⁵ See Gregory Fox, 'The Occupation of Iraq' (2005) 36 *Georgetown Journal of International Law* 195; Fleur Johns, 'The Torture Memos' in Fleur Johns, Richard Joyce and Sundhya Pahuja (eds), *Events: The Force of International Law* (Routledge, 2011).

³⁶ See Naomi Klein, *The Shock Doctrine* (Penguin, 2008).

³⁷ UNFCCC (n 13) art 2.

not, however, a matter of mere mismanagement; it is almost better understood as the reverse: the result of an acceleration of technical and bureaucratic practices over a century or several, that themselves depended upon and furthered an extensive system of effective regulation. Of course, the infrastructure of law is only one of many drivers of climate change, but the point remains that it arises from ordered activities marked by open-endedness and relative insouciance concerning contingent outcomes.³⁸ It is in this sense we might describe climate change as *ungovernance materialised*: the concrete actuality of an international legal ordering that has generally—and historically, from *Mare Liberum* through the General Act of Berlin to today's refugee-migrant morass and climate inconsequentiality—prioritised a notional freedom of action for some over responsibility for the consequences of that action for others. There is, then, a story we could tell in which climate change appears not as an accidental byproduct of a contingent order of things, but as the *inevitable* progression of a certain kind of legal and technical development, whose own logic has been inexorable (*had we only known*).³⁹

Might it be correct to identify this last epistemological afterthought—ie, *had we only known*—as the rueful lesson that presages the articulation of ‘ungovernance’? Perhaps. In the particular case of climate change, knowledge of the problem itself has required a massive knowledge-building apparatus—a ‘vast machine’ as Paul Edwards calls it in his compelling and meticulously researched account of the history of climate science.⁴⁰ But even on this close telling, it is a remarkable coincidence that this fabulous knowledge-generating machine aiming to explain human impact upon the climate system consolidates, in the 1980s, at almost precisely the moment that its geological-scale effects begin to manifest. In Edwards’s *A Vast Machine*, some (but not all) of this apparently extraordinary contingency dissolves in the reconnection of climate science to two other great machines of the postwar moment: scalar investment in military technology, on one hand, and the accelerating rise of computer science, on the other. Edwards recounts how, in the early Cold War years, the strategic value of being able to predict the weather (following the key contribution weather forecasting had made to the successful timing of the Normandy landings)—and even hopefully, in a next step, influence it—provided the United States military with a motive to lavish funds on the new field of computer science, itself looking for a *raison d’être* following the end of the Manhattan Project.⁴¹

³⁸ Oscar Guardiola-Rivera, ‘Absolute contingency and the prescriptive force of international law, Chiapas-Valladolid, ca. 1550’ in Fleur Johns, Richard Joyce and Sundhya Pahuja (eds), *Events: The Force of International Law* (Routledge, 2011).

³⁹ Though my point here is slightly different, see the general argument contained in Susan Marks, ‘False Contingency’ (2009) 62(1) *Current Legal Problems* 1.

⁴⁰ Edwards (n 6).

⁴¹ *Ibid.*, 112–8.

A key figure in all this was János von Neumann, the Hungarian-born Nobel-prize winning mathematician who, having worked on the Manhattan Project, turned his attention to computer science. Neumann attracted US military funding to his Meteorological Project at the Princeton Institute of Advanced Studies (IAS) with the hinted promise of weather control.⁴² The project deployed the world's first computer, the ENIAC (for Electronic Numerical Integrator and Computer) to weather prediction, which it could achieve 24 hours in advance, but requiring all of those 24 hours to feed in the data.⁴³ Neumann was *au fait* with climate science as early as 1955 and in fact floated the possibility of deliberately warming the planet as a possible Cold War strategy.⁴⁴ As he foresaw, the vastly increased computer processing capacity he propagated at his Electronic Computing Project (also at Princeton's IAS) in the 1950s provides the indispensable basis for the enormous work of climate modelling today.

Establishing the parameters of the greenhouse effect is, however, only the tip of the epistemological iceberg, so to speak, when it comes to climate governance. Ironically, perhaps, we still have no idea how to make the weather even though we are, apparently, doing just that. We can legislate a target for peak anthropogenic temperature rise (as in the Paris Agreement), but we cannot legislate, or even properly plot, a path to get us there. It may be that no path is plottable. The physical science is advanced but to it must be added various sciences of the 'social': how will economies evolve, what political settlements are possible, what technologies will be developed, what will people actually do, how to aggregate?

Climate science at present operates by plotting several pathways or scenarios—the current term is 'shared socio-economic pathways' (there are 222 in the IPCC's 2018 *Special Report on Global Warming of 1.5°C*, up from four in their 2014 *Fifth Assessment Report*)—trying to account for these variables.⁴⁵ The pathways must choose between the assumed continuance of trends, habits and practices that are empirically unfolding in an occasionally predictable fashion—all of which lead to unprecedented and increasingly

⁴² *Ibid*, 117.

⁴³ *Ibid*, 119–26. Neumann's principal contribution to computer science involved a critical design intervention to the ENIAC's successor, the EDVAC (Electronic Discrete Variable Automatic Computer)—the first binary computer—in 1946, establishing the memory architecture of the contemporary computer, the 'Neumann Architecture'. Neumann had earlier set the ENIAC the task of predicting nuclear fallout.

⁴⁴ *Ibid*, citing Steve Heims, John von Neumann and Norbert Wiener, *From Mathematics to the Technologies of Life and Death* (MIT Press, 1980) 236–47.

⁴⁵ See Joeri Rogelj and others, *Mitigation Pathways Compatible with 1.5°C in the Context of Sustainable Development* (IPCC, 2018) 95, 100. The report notes (at 95) 'In recent years, integrated mitigation studies have improved the characterizations of mitigation pathways. However, limitations remain, as climate damages, avoided impacts, or societal co-benefits of the modelled transformations remain largely unaccounted for, while concurrent rapid technological changes, behavioural aspects, and uncertainties about input data present continuous challenges. (high confidence)' The words 'behavioural aspects' carry a particularly heavy load in this sentence.

chaotic climate change; or to conscious policy options that could meet the Paris Agreement's aspirational targets but for which there is no precedent in terms of successful international policy coordination. IPCC pathways must, in short, plump either for an unprecedented future climate or an unprecedented future policy environment (as well as various combinations of both). Since all pathways are speculative and produced through computer models that must operate with a fraction of the relevant information, driven by a palette of unavoidably 'subjective' assumptions, the only thing that can be said with any certainty is that things will not, in fact, unfold as predicted in any of the 222 pathways. Needless to say, this would remain true even were some of the more obvious steps to avert climate change capable of enactment, including currently obvious, but unavailable, options such as phasing out fossil fuels outright. The knock-on effects of implementing, or attempting, any such policy escapes our predictive capacity to a similar degree (*had we only known!*).

So, we are stuck with agnosis and ungovernance in the first mode I describe above—a refusal or unwillingness to 'manage' the problem (explicitly in the case of one principal emitting territory, the United States). In its most common articulation, the assumption is that technology will rise to the climate challenge if left uninhibited: in tech we trust. At its most insouciant, the tacit supposition appears to be that both climate change itself and the possibility of a climate policy are too vast and complicated to be properly knowable, and so we must muddle through: *inherently* agnostic.

5. Climate law: ungoverning the ungovernable

In contrast with the embrace of agnosis, early climate law assumed that the global climate might become an object of concerted, conscious and directed human shaping. The UNFCCC is perhaps most notable for the unrealistic nature (so it appears retrospectively) of its twin objectives— 'prevent[ing] dangerous anthropogenic interference with the climate system', on one hand, and 'limiting anthropogenic emissions of greenhouse gases', on the other.⁴⁶ Almost three decades later, the danger has not been prevented and the emissions have not been limited. The 1997 Kyoto Protocol's attempt to harness market forces to these objectives failed (although the Protocol's targets were, under the approved accounting rules, met).⁴⁷ On most accounts, the Paris Agreement sought to overcome the Kyoto Protocol's perceived shortcomings by adopting what is universally referred to as a

⁴⁶ UNFCCC (n 13) art 2.

⁴⁷ Michael Grubb, 'Full Legal Compliance with the Kyoto Protocol's First Commitment Period – Some Lessons' (2016) 16(6) *Climate Policy* 673; Kyoto Protocol to the United Nations Framework Convention on Climate Change (adopted 11 December 1997, entered into force 16 February 2005) 37 ILM 22.

'bottom-up' approach.⁴⁸ That is to say the Paris Agreement eschews controls and concrete targets altogether: states set their own level of engagement through disparate policies that may or may not collectively meet the Paris Agreement's objectives (and so, although the Agreement does not say so, the objectives will likely need to be recalibrated over time).⁴⁹ The resulting national policies, their coherence in principle and achievement in practice, are monitored (but not directed) by an emerging global bureaucracy whose role is (or rather, at time of writing, will be) to act as a clearing-house of best practices, as states experiment with various forms of learning-by-doing.⁵⁰ The regime prioritises shared standards and procedures and methodologies, primarily through the IPCC, but even these remain subject to revision as the science in this area is itself constantly recalibrating in the light of new information, a tacit acknowledgement that knowledge itself is, in climate governance, at best provisional.

The Paris Agreement as a whole provides, I suggest, an excellent, possibly paradigmatic, example of an ungovernance regime in the second mode I described above. The Agreement says almost nothing about *what* states need do to meet its objectives. Indeed, it says nothing to indicate that any specific state has any specific task (beyond lodging its 'nationally determined contribution' and reporting) to ensure that its proclaimed overarching obligation—perhaps better understood as a 'collective objective'—is in fact met.⁵¹ This is ungovernance as laboratory, not only because the actual governing is minimal (there is neither the imposition of tasks nor the enforcement of compliance), and not only because treaty objectives are subordinated to the freedom of action of the participants in the regime—but because it permits and actively encourages experimentation and trial. Some states will aim at more stringent state-led mitigation policies; others will rely on market mechanisms; many will do nothing; all will look at what others are doing and modify their behaviour in light of what is seen to work or avoids opprobrium.⁵²

⁴⁸ This refers to Paris Agreement (n 13) art 4.

⁴⁹ Christina Voigt, 'The Compliance and Implementation Mechanism of the Paris Agreement' (2016) 25(2) *Review of European, Comparative, and International Environmental Law* 161.

⁵⁰ Paris Agreement (n 13) art 14. See too the UNFCCC, Report of the Conference of the Parties on its twenty-first session, held in Paris from 30 November to 13 December 2016 (29 January 2016) FCCC/CP/2015/10/Add.1, Decision 1/CP.21.

⁵¹ This point, which is plain from the treaty text, is examined in some detail in Alexander Zahar, 'Collective Obligation and Individual Ambition in the Paris Agreement' (2020) 9(1) *Transnational Environmental Law* 1. Zahar notes that Paris 'does not provide for a process to resolve the global mitigation burden into state-level ambition commitments to ensure that the paramount objective is met' (1).

⁵² See the list of countries' nationally determined contributions (NDCs) submitted under Paris art 4 on the UNFCCC website: 'NDC Registry (interim)' (UNFCCC) online: <https://www4.unfccc.int/sites/ndcstaging/Pages/Home.aspx>.

Insofar as the Paris Agreement meets my description of the second mode above, of ‘the creation of stable spaces wherein instability or destabilization may be monitored, or even introduced, experimentally’, it is through the inauguration of a shared methodology (and with it a normative vocabulary) aiming at the production of a strong knowledge base for improved global understanding of the problem of climate change and future trends.⁵³ Decisions taken at Conferences of the Parties in Paris in 2015, Katowice in 2018, and Madrid in 2019 instituted and reinforced several regime pillars: (i) improved national communications under the UNFCCC;⁵⁴ (ii) obligatory national reporting of mitigation sectors and actions under the Paris Agreement;⁵⁵ (iii) updated and refined methodological guidelines from the IPCC;⁵⁶ and (iv) the construction of a ‘global stocktake’ mechanism, centralising the analysis of all this information under article 14 of the Paris Agreement.⁵⁷ Together these moves mark the regime out as instantiating not merely a knowledge-building exercise but also a progressive open-ended co-ordinating mechanism, whose institutional forms are *expected* to shift in line with a changing experimental landscape, garnered from a dialectic between local and global. One might even argue that, since the Paris Agreement’s objectives themselves are unlikely to succeed, the *principal* purpose of the Agreement is iterative epistemological reorientation under conditions of dialogic experimentation.⁵⁸ We may fail to stop global average temperatures rising, but whatever happens in our hot future, we will have a better almanac to hand.

6. Ungoverning equitably (or: equity and equanimity)

Under the header ‘principles’, the UNFCCC proclaims in its article 3 that global climate actions will be undertaken ‘on the basis of equity’.⁵⁹ Equity is, I believe, a productive lens through which to view ungovernance, as the

⁵³ Paris Decision (n 50) paras 27, 31, 42, 45, 73 and 94.

⁵⁴ UNFCCC, ‘Decision 6/CP.25 Revision of the UNFCCC reporting guidelines on national communications for Parties included in Annex I to the Convention’ (16 March 2020) UN doc FCCC/CP/2019/13/Add.1 online: https://unfccc.int/sites/default/files/resource/cp2019_13a01_adv.pdf.

⁵⁵ *Ibid*; UNFCCC, ‘Preparations for the implementation of the Paris Agreement and the first session of the Conference of the Parties serving as the meeting of the Parties to the Paris Agreement’ (14 December 2018) UN doc FCCC/CP/2018/L.22 online: https://unfccc.int/sites/default/files/resource/l22_0.pdf.

⁵⁶ Eduardo Calvo Buendia and others (eds), *2019 Refinement to the 2006 IPCC Guidelines for National Greenhouse Gas Inventories* (IPCC, 2019). There are five volumes, online: <https://www.ipcc-nggip.iges.or.jp/public/2019rf/index.html> (accessed 12 January 2020).

⁵⁷ At time of writing, the mechanics of the global stocktake are yet to be decided, but see APA Item 6, UNFCCC, ‘Joint reflections note by the presiding officers of the Ad Hoc Working Group on the Paris Agreement, the Subsidiary Body for Scientific and Technological Advice and the Subsidiary Body for Implementation Addendum 7’ (15 October 2018) UN doc APA-SBSTA-SBI.2018.Informal.2.Add.7 online: https://unfccc.int/sites/default/files/resource/APA_SBSTA_SBI.2018.Informal.2.Add_7.pdf

⁵⁸ The headline objectives are to ‘Hold ... the increase in the global average temperature to well below 2°C above pre-industrial levels and to pursue efforts to limit the temperature increase to 1.5 °C above pre-industrial levels’. Paris Agreement (n 13) art 2(1)(a).

⁵⁹ The UNFCCC’s article titles, such as ‘principles’ at article 3 and ‘commitments’ at article 4, are subject to the caveat of an asterixed footnote at the head of the treaty: ‘Titles of articles are included solely to assist the reader!’

term itself has long functioned essentially to reinsert an element of uncertainty into regimes of putative governance. The insertion of ‘equity’ or its various cognates—‘equitable’ or ‘ex aequo et bono’—within any governing apparatus appears to acknowledge that standards may not work, that law is indeterminate and open to abuse, and that accidents happen.⁶⁰

Historically, regimes of equity are frequently recombined into law, only to re-emerge in some new form (arbitration, mediation, ‘the fourth branch’, the police power). Equity is, in a sense, the other of the ‘rule of law’—discretion to the rule of law’s formalism, passion to its reason, compassion to its impartiality.⁶¹ So perhaps it is unsurprising that it may suffer from the same qualities of polysemy and multivalence that characterise rule of law. Like rule of law, equity cannot be assigned a stable definition; like rule of law, its theoretical coherence(s) notwithstanding, it is deployed in practice in ways that are incoherent or outright contradictory. Far from offering guidance or direction in a given governance space, the appearance of equity often signals contestation and dissensus.

In the particular case of climate law, the term ‘equity’ is made to do an extraordinary amount of work, standing in for a vast number of stakes or interests that remain largely unarticulated in the law though fundamentally subjected to it. The term has resisted definition and has instead come to signal a sizeable zone of inactivity in the face of demands that are characterisable as ‘impossible’, utopian, or unrealistic. Arguably, then, equity functions as a black box in climate debate, into which important but intractable matters disappear, excluded, as Robert Esposito puts it in a related context, by means of their inclusion.⁶²

What it means to ‘protect the climate system’, as UNFCCC article 3 puts it, ‘on the basis of equity’ is not elaborated in the text, but it is associated (by proximity) with the contentious principle of ‘common but differentiated

⁶⁰ Captured in a famous passage from Aristotle’s *Rhetoric*: ‘[I]t is equitable to pardon human weaknesses, and to look, not to the law but to the legislator; not to the letter of the law but to the intention of the legislator; not to the action itself, but to the moral purpose; not to the part, but to the whole; not to what a man is now, but to what he has been, always or generally; to remember good rather than ill treatment, and benefits received rather than those conferred; to bear injury with patience; to be willing to appeal to the judgement of reason rather than to violence; to prefer arbitration to the law court, for the arbitrator keeps equity in view, whereas the [citizen-juror] looks only to the law, and the reason why arbitrators were appointed was that equity might prevail’. Aristotle, *The Art of Rhetoric* (Harvard University Press, 1939), Book 1, Chapter 13, 1374b. Aristotle’s example, in the same text, makes the point explicit: ‘if a man wearing a ring lifts up his hand to strike or actually strikes, according to the written law he is guilty of wrongdoing, but in reality he is not; and this is a case for equity.’ (1374a).

⁶¹ This obvious antinomy has been largely neglected in the legal literature, although it has been the implicit stake of numerous disputes over the historical role of equity in the common law tradition. But see Irit Samet, *Equity: Conscience Goes to Market* (Oxford University Press, 2018) 16–28. On equity as a notional ‘feminine’ to the common law’s ‘masculine’, Susan Scott-Hunt and Hilary Lim, ‘Introduction’ in Scott-Hunt and Lim (eds), *Feminist Perspectives on Equity and Trusts* (Cavendish Publishing, 2001) xxxv.

⁶² Esposito (n 33) 8.

responsibilities' (CBDR), on one side, and the universally endorsed desideratum of 'intergenerational' co-benefits (whatever they might be), on the other.⁶³ The term disappears from the Kyoto Protocol—although it lives on in the Protocol's concrete, but ultimately (on many accounts) self-defeating application of the CBDR principle in the form of targeted emissions reductions obligatory on some countries only.⁶⁴ 'Equity' then reappears in the Paris Agreement, in several iterations, and as a key term in the IPCC's *Special Report on Global Warming of 1.5°C*, mandated by the Paris Conference of the Parties.⁶⁵

Three elements of the term's appearance in the climate context bear scrutiny. A first is the degree to which its inherent indeterminacy is not, in fact, acknowledged, much less mobilised, in climate law. All participants appear to treat equity as though it were meaningful and important. For example, in 2011, in the negotiations over the framework that would give rise, ultimately, to the Paris Agreement, United States negotiator Todd Stern attempted to push back against the insistence of 'developing country Parties': 'if equity's in we're out'.⁶⁶ It is difficult to imagine the rule of law, for all its dissonance, being subject to this kind of opprobrium.

Second, discussions of equity in the context of climate law habitually lack the ordinary associations the term attracts in law—which, of course, generally centre on how to treat *law itself*. At the heart of equity has generally been the idea that *some* body of law is to be deviated from, supplemented, or interpreted in a certain way.⁶⁷ In climate discussions, by contrast, the term is generally raised without reference to any particular law, or indeed to law at all. If the UNFCCC intended, with equity, to modify 'the law', it is difficult to know *what* law is to be modified, much less how.

Third, the constellation of themes animating the discussions and arguments that have accrued around the term 'equity' in climate law are, in practice, immense: they comprise the principal ethical and distributional concerns that have animated and divided international climate politics from the outset. These include the lengthy arguments over past, present and future responsibility for climate harms, over whether climate harm should be compensated, over the global target and individual national

⁶³ The cognate term 'equitable' also appears in the UNFCCC, in the relatively concrete context of a proposed climate finance mechanism (art 11), which 'shall have an equitable and balanced representation of all Parties'. 'Equitable' here presumably refers to something very determinate: that the representation of states on this new finance mechanism will match their contributions—ie votes are in line with wealth. See UNFCCC (n 13).

⁶⁴ Kyoto Protocol (n 47), arts 2(1), 3(1), 3(7) and 4(1).

⁶⁵ See Paris Agreement (n 13), prologue, arts 2(2), 4(1) and 14(1); Myles Allen and others. 'Framing and Context' in IPCC (n 3), 54–56.

⁶⁶ See Jonathan Pickering, Steve Vanderheiden and Seumas Miller, "'If Equity's In, We're Out": Scope for Fairness in the Next Global Climate Agreement' (2012) 26(4) *Ethics & International Affairs* 423.

⁶⁷ Dinah Shelton, 'Equity' in Dan Bodansky, Jutta Brunnée and Ellen Hey, *The Oxford Handbook of International Environmental Law* (Oxford University Press, 2008).

targets (and the criteria for determining both), over the discount rate in calculating future costs and benefits of climate action and inaction, over the design of carbon markets or taxes, over the appropriate modes of participation in climate negotiations, over climate financing mechanisms, over global adaptation policy, over REDD+ programmes, over the implementation and indeed the very notion of technology transfer, over the composition of working groups and various other UNFCCC institutions.⁶⁸ Indeed, this list comes nowhere close to exhausting the thematic magnetism of the term in climate debates.

But why was it there at all? What might this term have been expected to signify, in 1992, in the first climate treaty? This is a question that begs several more. In a 2005 article in the *Stanford Law Review*, Darien Shanske laid out a typology of equity, describing 19 differentiable usages of the word, many wildly far apart from one another.⁶⁹ But even reducing that broad sweep to the relatively narrow field of law alone, connotations may be drawn from many sources, ranging from concrete rules of legal interpretation to intuitive notions of ‘fairness’, from the obscure but attractive idea of ‘inter-generational equity’ to the influential doctrine of ‘fair and equitable treatment’ under international investment law.⁷⁰

Even on this brief *précis*, it seems fair to assume that the ‘Parties’ agreeing to ‘protect the climate ... on the basis of equity’ are unlikely all to have been agreeing to the same thing. Add to this the distinctions between the different translations of the terms in each of the official UN languages—signalling not merely very different legal cultures, but potentially distinct notions about the relationship between law and justice itself.⁷¹ It is possible to imagine, during the Intergovernmental Negotiating Committee negotiations in the run-up to Rio, various different blocks finding a compromise in the term ‘equity’, and each investing the term with their preferred meaning.⁷² Each preferred interpretation would then assume different winners and losers. It is also possible to imagine one or other state strategically championing equity as

⁶⁸ For eg, the notion of ‘equity’ was central to the 2006 Stern Review’s very controversial choice of discount rate, detailed in Nicholas Stern, *The Economics of Climate Change: The Stern Review* (Cambridge University Press, 2006); Cameron Hepburn and Nicholas Stern, ‘A new Global Deal on Climate Change’ (2008) 24(2) *Oxford Review of Economic Policy* 259. Stern chose a discount rate of 1.4%, whereas a number of economists had argued for a higher discount rate—which would have assumed that the cost of dealing with climate change is considerably less for future generations than for today’s. Stern justified his approach by reference to the UNFCCC notion of equity.

⁶⁹ Darien Shanske, ‘Four Theses: Preliminary to an Appeal to Equity’ (2005) 51 *Stanford Law Review* 2053.

⁷⁰ Shelton (n 69); Edith Brown Weiss, *In Fairness to Future Generations: International Law, Common Patrimony, and Intergenerational Equity* (Transnational Publishers Inc, 1989).

⁷¹ Official translations are available here: <https://unfccc.int/bigpicture> (visited May 10, 2019). In addition to equity, *équité* (French) and *equidad* (Spanish), the translations give *spravedlivost* (справедливость) in Russian—a term usually translated simply as ‘justice’—“iinsaf” (إنصاف) in Arabic, which translates to ‘fairness’ as opposed to strict equality (‘musawa’ [مساواة]) but also to ‘redress’ or ‘remedy’, and in Chinese ‘gongping’ (公平), usually translated as ‘impartial’ or ‘fair’ as in ‘right to a fair trial’.

⁷² Michael Grubb and Michael Paterson, ‘The International Politics of Climate Change’ (1992) 68(2) *International Affairs* 293.

a way around distasteful but persistent matters of core disagreement. Either possibility would locate equity in the UNFCCC under my third proposed mode of ungovernance above: as a black box of indeterminacy wherein to park politically recalcitrant issues with the effect of inoculating against the potential ‘ethical’ or ‘distributional’ dimensions of climate governance.⁷³

This account of equity seems correct: as has been the case with the cognate term technology transfer, an inability to agree even on the definition of equity has tended to create a space that inoculates the climate regime against the threat of claims for some larger ‘climate justice’.⁷⁴ And yet this account could not exhaust the climate justice story even if it were correct. One effect of placing ‘equity’ in the climate regime has surely been to spark significant—lengthy if not always focused—debate over what precisely the term may encompass, and how to understand it in the climate context. With time, equity has also become a floating signifier of sorts, whose specific meaning in any given context remains plastic enough to accommodate various voices and concerns. In 2016, for example, the repeated appearance of the term ‘equity’ in the Paris-mandated chapter outline for the IPCC’s *Special Report on Global Warming of 1.5°C* itself triggered a slew of peer-reviewed articles, aiming to describe how the term is to be understood and implemented.⁷⁵ Whereas the articles do not themselves assume or achieve normative or definitional consistency, one effect is to (cumulatively) mark out the normative parameters and weightings relevant to the term within the climate law context. The black box as floating signifier creates an unstable dynamic. On one hand, the relative absence of executive capacity allows for free discussion of the term’s powerful imagined significations (since the stakes are low); on the other, its undiminished role as a repository of hope for fairer distributional outcome drains energy that might otherwise become radicalised in the climate context. The term shuttles between possibility and impotence in a kind of febrile dialectic that may itself become destabilising. If the black box fails to contain or the vaccine fails to inoculate, in short, something may give.

This broad context may provide a clue to understanding Todd Stern’s exclamation ‘if equity’s in we’re out’. Translation: *it’s equity, but not as we know it* (or: *had we only known!*). The upshot would appear to be that, if

⁷³ Again this account inverts metonymically Robert Esposito’s ‘immunological’ account of law (Esposito (n 33)). If law immunises ‘community’ from private ‘expropriation’, one might conjecture that equity immunises climate law from a (communal) backlash at the privation of the (carbon) commons.

⁷⁴ Humphreys (n 31). See also Stephen Humphreys, ‘Climate, Technology, “Justice”’ in Alexander Proelss (ed) *Protecting the Environment for Future Generations: Principles and Actors in International Environmental Law* (Erich Schmidt Verlag, 2017) 171–89.

⁷⁵ See Dann Mitchell and others, ‘The myriad challenges of the Paris Agreement’ (2018) 376(2119) *Philosophical Transactions of the Royal Society*, online: <<https://royalsocietypublishing.org/toc/rsta/2018/376/2119>> [<https://perma.cc/E9HP-ENS7>] as well as the remainder of this special issue on ‘The Paris Agreement: understanding the physical and social challenges for a warming world of 1.5°C above pre-industrial levels’.

equity has any real traction within the regime, it is to articulate and legitimise claims that cannot be reconciled, and so potentially explode the regime and render it inoperable, a zone of unassimilable claims by warring parties whose dynamic is to produce chaos and dysfunctionality.

7. Catastrophe and anagnorisis

The latter scenario would appear to portend ungovernance in the fourth mode I described above—catastrophic. However, it would clearly be incorrect to assign to the irresolute term ‘equity’ the full catastrophic significance of contemporary climate ungovernance. The black box—equity in this case—merely neutralises; the catastrophic is rather a space for untrammelled action (for some). The catastrophic analysis seems more apposite to the UNFCCC regime as a whole, not alone but in combination with the various other climate (un)governance regimes I have identified. Etymologically, catastrophe refers to a ‘fatal turning point’ or ‘overturning’ (*καταστροφή*) in Greek tragedy. As things stand, scientists have identified several likely scenarios that would be catastrophic in this sense, such as the collapse of ice sheets in Greenland, the thawing of permafrost in Siberia, or the reversal of the Atlantic Meridional Ocean Circulation—events likely to lead to an immense acceleration in global heating.⁷⁶ A group of climate scientists led by Will Steffen reckon the likely threshold level for these scenarios is 2°C:

We suggest 2°C because of the risk that a 2°C warming could activate important tipping elements ... raising the temperature further to activate other tipping elements in a domino-like cascade that could take the Earth System to even higher temperatures ... Such cascades comprise, in essence, the dynamical process that leads to thresholds in complex systems. This analysis implies that, even if the Paris Accord target of a 1.5°C to 2.0°C rise in temperature is met, we cannot exclude the risk that a cascade of feedbacks could push the Earth System irreversibly onto a ‘Hothouse Earth’ pathway.⁷⁷

A hothouse is, of course, synonymous with a kind of laboratory: an experimental space in which virulent bodies are allowed or encouraged to thrive. Climate change appears to flourish in the margins of the many functional governance regimes that structure a global economy, intensely productive, instantiating a combination of predictable and ungovernable effects. And yet, of course, climate change is not marginal. It is perhaps the central fact of the congeries of governance regimes that cumulatively have made it inevitable. It is the apparent contingency that turns out to have been the necessary consequence, all along, of a loose coordination among self-interested actors, acting in ignorance. It is a chaos that may

⁷⁶ Will Steffen and others, ‘Trajectories of the Earth System in the Anthropocene’ (2018) 115(33) *Proceedings of the National Academy of Sciences* 8252.

⁷⁷ *Ibid.*, 8254.

even grant a certain kind of freedom to those few with the resources to ride out the storm surge.

But this observation barely begins to capture the significance of the ‘fatal turning point’ that is *καταστροφή* in the context of climate change. The term, as noted, originates in Greek tragedy, and relates to a ‘reversal of situation’ (*peripeteia*) as Aristotle has it in his *Poetics*—a moment in which the protagonist confronts a set of circumstances so powerful and unavoidable that they are required—forced—to rethink everything.⁷⁸ Typically the protagonist has considered him or herself an agent, in control of matters, and is forced to the recognition that they are not: matters are taking a course far outside their expectation or will and they must face up to this (think Oedipus). Alternatively it may be that they have believed themselves unable to act, powerless, and the catastrophic moment is one in which it is their agency that is thrust upon them (think Hamlet). Either way, the turning point does not, it will turn out, easily analogue to one or other of the ‘tipping points’ that have become emblematic of a particular brand of climate scare-science. Rather it is the moment of *recognition* which, ‘as the name [*anagnorisis*] indicates’ (says Aristotle) ‘is a change from ignorance to knowledge’ and ‘will produce either pity or fear’.⁷⁹ *Anagnorisis*: the reversal of *agnosis*.

The resonance with climate ungovernance is already clear, I imagine, but let me take it a step further. George Steiner, in a 2004 meditation on his earlier classic, *The Death of Tragedy*, recalls a fragment from Plato’s *Laws*—the story of an Athenian advising would-be colonists on the construction of the perfect polity—a polity in which the writers of tragedy are turned away. Why? Because, it seems the governors themselves are already masters of the art:⁸⁰

Respected visitors, we are ourselves authors of a tragedy, and that the finest and the best we know how to make. In fact, our whole polity has been constructed as a dramatization of a noble and perfect life; that is what we hold in truth to be the most real of tragedies.

The implication that governance is the work of engendering tragedy is confounding, Steiner points out. How can the law-based state, the pursuit of the ‘noble and perfect life’, amount to the ‘most real of tragedies’? Steiner will pursue the point though, that however we have gone about constructing our polity, our home, the truth of tragedy is the inescapability of encroaching homelessness: ‘the necessary and sufficient premise, the axiomatic constant in tragedy is that of ontological homelessness ... of alienation or ostracism from the safeguard of licensed being.’⁸¹ That is, our commandeering of our world

⁷⁸ SH Butcher, *The Poetics of Aristotle* (Macmillan and Co, 1902) 41.

⁷⁹ *Ibid.*

⁸⁰ Cited, in AE Taylor’s translation, in George Steiner, ‘“Tragedy” Reconsidered’ (2004) 35(1) *New Literary History* 1, 2.

⁸¹ *Ibid.*, 2–3.

itself, Steiner indicates, entails self-alienation from our at-homeness *in* the world. Steiner is of course thinking of the many variants of the story of the fall from grace or ‘original sin’, conceived as an inescapable truth of humankind rather than as dogma.⁸² But it is tempting to rethink tragedy with Steiner, in light of climate catastrophe, as ‘our fall ... from an at-homeness in the natural and animal world to an estranged, singular status in “culture”’, that is in our own insular, cold and uniquely human *techné*.

8. Conclusion

In this article, I have sought to focus and enrich the notion of ungovernance by reference to global climate change. I have suggested that ungovernance appears in four differentiable—indeed non-assimilable and even outright contradictory—modes, which I have characterised as agnostic (the recession of law in the putative embrace of agnosis), experimental (law as laboratory isolating experimental spaces), inoculative (law as black box or as vaccine, neutralising potential sources of destabilisation) and catastrophic (the eventual collapse of law, possibly strategic, potentially chaotic). I have proposed that different elements of the regime-complex ‘governing’ the climate system embody each of these four non-assimilable modes: the first (agnostic) mode is seen in neoliberal hands-in-the-air approaches to climate change; the second (experimental) mode in the Paris regime’s preference for methodological alignment over substantive objectives, tending to ‘embrace the impossibility of closure’; the third (inoculative) mode in the enormous work undertaken through the term ‘equity’ in cordoning off claims for climate justice; and the fourth (catastrophic) mode in the—properly speaking tragic—effects of these various regimes viewed in combination.

Disclosure statement

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⁸² *Ibid*, 5.