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Forms of Law for the Anthropocene: Civil Liability Revisited

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Abstract

Rapid, unpredictable ecological changes and the resulting instability that are characteristic of the Anthropocene call for a re-examination of the role of law in governing interactions between humans and ecosystems and facilitating adaptation to ecological change. The scope and scale of environmental change we are experiencing seem to call for a regulatory approach, namely forms of law that are designed to pursue well-defined material objectives, often through instruction rules designed to guide behavior to line up with those objectives. Such forms of law have a crucial role to play. However, the negligence principle at the heart of civil liability law is also capable of absorbing and circulating information about environmental risk and means of addressing it, and of translating that information from empirical to normative terms. The grounding of negligence in domestic civil liability law could be a serious obstacle to its effectiveness given the global, Earth system-wide nature of environmental degradation. However, the negligence principle increasingly operates through networks that traverse jurisdictional boundaries, as well as the boundaries between social systems. I propose such a network approach to analyze interactions between the negligence principle and corporate due diligence obligations embedded in domestic legislation and international texts such as the United Nations Guiding Principles on Business and Human Rights (UNGPs). One important result would be the imposition of expanded epistemic obligations on firms, which would in turn require their serious engagement with domestic, international, and transnational environmental and sustainability norms.

Keywords: Anthropocene; sustainability; networks; civil liability; global law

A. Introduction

It has long been argued by scholars of ecology and law that the law governing ecosystems must be flexible, adaptable, and capable of learning,¹ particularly as we move into the rapid, wide-scale, and dramatic ecological change that characterizes the Anthropocene. At the same time, it must be acknowledged that such flexibility and capacity for learning is in tension with some of the

¹See J.B. Ruhl, *Thinking of Environmental Law as a Complex Adaptive System: How to Clean Up the Environment by Making a Mess of Environmental Law*, 34 HOUSTON L. REV. 933 (1997). See also Crawford S. Holling, *Understanding the Complexity of Economic, Ecological, and Social Systems*, 4:5 ECOSYSTEMS 390–405 (2001); Jonas Ebbesson, *The Rule of Law in Governance of Complex Socio-ecological Changes* 20:3 GLOB. ENV'T CHANGE 414–22 (2010); Tim Stephens, *Reimagining International Environmental Law in the Anthropocene*, in ENVIRONMENTAL LAW AND GOVERNANCE FOR THE ANTHROPOCENE 31, 49 (Louis J. Kotzé ed., 2017); Benjamin J. Richardson, *Doing Time: The Temporalities of Environmental Law*, in ENVIRONMENTAL LAW AND GOVERNANCE FOR THE ANTHROPOCENE 55, 61 (Louis J. Kotzé ed., 2017); Louis J. Kotzé et al., *Earth System Law: Exploring New Frontiers in Legal Science*, 11 EARTH SYS. GOVERNANCE 100126 (2022); Olaf Dilling, *Enclosed Solutions for Common Problems? Uncertainty, Precaution and Collective Learning in Environmental Law*, in GLOBALISATION AND THE POTENTIAL OF LAW IN TRANSNATIONAL MARKETS 131 (Christian Joerges & Josef Falke eds., 2011).

fundamental prestations of law to society, namely the provision of a modicum of order, predictability, and stability.² Responding to conditions of uncertainty and rapid change requires highly responsive, resilient governance structures that are capable of circulating information rapidly among a broad and diverse array of actors pursuing different interests and objectives. Furthermore, given global flows of pollutants and other drivers of environmental degradation, these structures must operate across governance scales and jurisdictional boundaries. At the same time, they must respond to a wide range of demands not directly related to ecology, such as fairness and inclusion. Law can no longer serve only, or mainly, human interests, but at the same time it remains a profoundly important institution for human society.

My focus will be on economic actors, particularly multinational corporations (MNCs). This focus is warranted, first, because of the implication of MNCs in particular and economic activity more in general in global ecosystemic degradation, and second, because the transboundary structure of MNCs, global supply chains, and flows of environmental and human impacts poses significant challenges to a legal system conceived of as anchored in state jurisdiction. I begin by analyzing the concept of the Anthropocene and teasing out some important implications for law. I then turn to scholarship on global or transnational law, as there is significant overlap between the pressures placed on law by, on the one hand, the emergence of world society and, on the other hand, the ecological change associated with the Anthropocene. While it may seem natural to turn to public, particularly regulatory, law to guide us through ecological crisis, I argue that the form of private law, and more in particular civil liability law, has an important role to play. The reasonable person standard at the heart of civil liability law operates as a bridging concept, creating points of connection between factual assessments of risk and norms regarding risk management. Furthermore, the reasonable person standard is capable of operating in a transnational context even where it is being interpreted and applied by domestic judges. To illustrate this transnational reach, I consider interrelationships between the reasonable person standard and the due diligence responsibility articulated in the United Nations Guiding Principles on Business and Human Rights (UNGPs).³ The obligation to take action to reduce or eliminate risk is of great importance, but the emphasis here is rather on the epistemic dimensions of due diligence. The UNGPs significantly expand the scope of activities, behaviors, and outcomes that corporations are called upon to investigate and analyze, encompassing the activities of subsidiaries as well as suppliers and other partners throughout value chains.⁴ The Principles may be non-binding, but they nevertheless influence shared understandings about reasonable behavior on the part of firms, understandings that in turn inform the reasonable person standard within the negligence principle.

B. Paths for Law in the Anthropocene

The Anthropocene is a term coined by Paul J. Crutzen & Eugene F. Stoermer, an atmospheric chemist and a limnologist, respectively, to designate the geological epoch that the Earth has entered, marking a departure from the stable conditions of the Holocene.⁵ Though grounded in

²See J. Klabbers, *Possible Islands of Predictability: The Legal Thought of Hannah Arendt*, 20:01 LEIDEN J. OF INT'L L. 1–23 (2007); Jaye Ellis, “Crisis, Resilience, and the Time of Law” (2019) 32:2 CANADIAN J. L. & JURISPRUDENCE 305–320. See also Niklas Luhmann, *LAW AS A SOCIAL SYSTEM*, 152 (2004) (exploring the theoretical framework informing my analysis is Luhmann’s system theory. Here I draw on his assertion that the prestation of law is to stabilize expectations).

³See *Guiding Principles on Business and Human Rights: Implementing the United Nations “Protect, Respect and Remedy” Framework*, Office of the High Commissioner for Human Rights (2011).

⁴*Id.*, Principles 13(b), 18, and 19 and associated commentary.

⁵See Paul J. Crutzen & Eugene F. Stoermer, *The “Anthropocene,”* GLOBAL CHANGE NEWSLETTER, May 2000, at 17 (noting the immense influence of this article, and the concept it presented, prompted the Subcommittee on Quaternary Stratigraphy, a body of the International Commission on Stratigraphy within the International Union of Geological Sciences, to constitute the Anthropocene Working Group to consider, and finally accept, adoption of the term: *Results of binding vote by AWG*, 21 May 2019: <http://quaternary.stratigraphy.org/working-groups/anthropocene/>. Accessed 14 March 2021).

empirical data and analysis, the power of the Anthropocene concept arguably lies mainly in its rhetorical and normative resonance.⁶ It signals not only the dramatic effects of environmental degradation but also an encounter with a point of no return. The instability and uncertainty provoked by rapid and significant ecological change are among the most challenging features of the Anthropocene.⁷ Law has an important role to play in meeting these challenges, but in seeking to do so will face challenges of its own. As legal frameworks are modified to respond to uncertainty, their capacity to promote stability, predictability, and order will be put to the test. One could even conclude that these important objectives of law need to be reconsidered or fundamentally reshaped. Or, following Niklas Luhmann, one might conclude that the influence of law, and normative approaches in general, will wane as science and technology grow in importance. Scientific and technical knowledge is much more readily generalizable across different contexts, and is more responsive to changing conditions, precisely because scientific conclusions and propositions, unlike legal or moral norms, are subject to revision in the face of disappointment—that is, they are, by design, open to learning.⁸

One way to represent the nature of ecological instability in the Anthropocene is to conceptualize Earth's ecosystems as possessing agency. Such a conceptualization is called for by observers who note that human interests can no longer be considered the only interests worth considering, or even deserving of prioritization over other interests.⁹ It therefore becomes necessary for law and politics to take these interests directly into account. This difficult but important task becomes ever more complicated as ecological instability increases, however. At the very least, humans must contend with earth systems that can no longer be conceived of as static backdrops to human activity. By transforming itself into a biological agent, humanity has inserted the environment into history.¹⁰ European and North American settler conceptions of the environment tend to be static, seeing the environment as backdrop, changing and transforming, it is true, but in a cyclical, largely repetitive manner. Linear changes from one state to another occurred so slowly as to be imperceptible, at least without the intervention of expert knowledge.¹¹ Bruno Latour's conception of Gaïa provides a metaphorical, highly evocative image of Earth responding to the changing role of humanity and the entwining of human and natural history: The Earth, Gaïa, is our interlocutor, but one whom we know and understand very little. The dramatic, rapid, and unpredictable nature of environmental change presents societies with challenges not dissimilar to those inherent in an encounter with a strange and powerful people whose ways and objectives are poorly understood but that must henceforth figure in our assessments of what we ought to do.¹² Humans now face a non-human world that is animate, an agent whose will and objectives we do not understand and whose behavior we cannot predict, but with which we must reckon.¹³ This image may help us to work through certain aspects of responsibility, most notably by providing an interlocutor that has been harmed and to which we may owe duties. The agency of the non-human world is not expressed through victimhood alone, however, as the non-human world acts on humans as well. In making plans and undertaking

⁶See Elizabeth Kolbert, *Foreword*, in *LIVING IN THE ANTHROPOCENE: EARTH IN THE AGE OF HUMANS*, I (W. John Kress & Jeffrey K. Stine eds., 2017).

⁷See D. Chakrabarty, *The Anthropocene and the Convergence of Histories*, in *THE ANTHROPOCENE AND THE GLOBAL ECONOMIC CRISIS*, 45–56 (C. Hamilton, C. Bonneuil & F. Gemenne eds., 2015).

⁸See Niklas Luhmann, *Die Weltgesellschaft*, in *SOZIOLOGISCHE AUFKLÄRUNG* 2, 51, 55 (1975).

⁹See Frédéric Mégret, *The Anthropocentrism of Human Rights*, in *THE ROUTLEDGE HANDBOOK OF INTERNATIONAL LAW AND ANTHROPOCENTRISM*, 35 (2023). See also Kirsten Anker, *Ecological Jurisprudence and Indigenous Relational Ontologies: Beyond the "Ecological Indian"?*, in *FROM ENVIRONMENTAL TO ECOLOGICAL LAW*, 104 (2020); Marie-Catherine Petersmann, *Response-abilities of Care in More-than-human Worlds*, 12 *J. OF HUM. RTS. AND THE ENV'T* 102–24 (2021).

¹⁰See Paul Rutherford, *"The Entry of Life into History,"* in *DISCOURSES OF THE ENVIRONMENT*, 37 (Éric Darier ed., 1999).

¹¹See Chakrabarty, *supra* note 7 at 52–53 (exploring how expert knowledge would encompass traditional ecological knowledge, which includes knowledge of place that extends far back in time).

¹²See Bruno Latour, *Agency at the Time of the Anthropocene*, in 45:1 *NEW LITERARY HISTORY* 1–18 (2014).

¹³See *Id.*

projects, we must now account for unexpected ecosystemic changes in much the same way as we need to account for the unexpected actions and reactions of those on whom we depend to bring our plans to fruition. Furthermore, our objectives are not the only ones that count; the interests and objectives of our interlocutor must also be considered.

Latour proposes the concept of *ius gentium* as a framework for thinking through legal and political approaches to Gaïa. *Ius gentium* presupposes neither the imposition of our law on the non-human world, as though we could treat that world as just another actor whose behavior we must regulate, nor the subjection of human society to *ius naturalis*, by assuming that we are henceforth subject to the laws of nature. In many important senses, we are indeed subject to nature's laws. Humans are dependent on Earth's ecosystems and therefore not free to move beyond their limitations. However, humans are not passive recipients of a legal code handed down to us; we are the authors of the law, even as we seek to represent—that is, to re-present, or present anew¹⁴ the interests, perspectives, and objectives of Gaïa as best we can. Scientists, including holders of traditional ecological knowledge, along with other actors with deep insights into ecosystems, engage in processes that are much more complex than the transmission of meaning from the natural world to human processes of decision-making.¹⁵ Consider the Planetary Boundaries project,¹⁶ whose objective is to develop estimates and projections regarding the safe operating space within which humanity needs to remain. Importantly, this project does not purport to lay down the law, as it were. The immensely difficult work of getting to, and staying within, the safe operating space is, appropriately, left to human collectivities and institutions. Latour's concept of *ius gentium* offers guidance for taking up this challenge.

Among the most important challenges to law presented by conditions in the Anthropocene are an irreducible uncertainty, the compressed time frame in which decisions must be made, a heavy dependence on scientific and other forms of expertise, and the diminished relevance of past experience. Furthermore, responses to these challenges generate further challenges and problems, notably the heightened vulnerability of actors and communities to the impacts of legal rules and decisions. Because decisions must often be made rapidly, in the face of uncertainty, and are likely to disrupt patterns and shared expectations as authorities react to rapid changes, law will become a source of destabilization alongside ecological changes themselves.¹⁷ It will be much harder in some contexts to gather and assess extensive information *ex ante* that will permit detailed evaluation of potential effects and careful, deliberate decision-making. As a result, it will likely become increasingly important to attend to *ex post* evaluations and course corrections, both to ensure that legal rules and frameworks are pursuing their intended ecological objectives and to protect the interests of those who have been caught up in rapid legal changes, notably those already in vulnerable positions.¹⁸

I. Global Law's Lessons for the Anthropocene

In many important respects, conditions in the Anthropocene and pressures that they bring to bear on law overlap with those generated by economic globalization, increased social complexity, and social acceleration, among other factors. Some of the most important sources of pressure are the increased dependence of legal and political norms on sophisticated expert knowledge; denser and

¹⁴Representatives of Gaïa could present themselves as mere conduits of natural law, but they may also understand themselves as engaged in interpretation and meaning-making.

¹⁵See Michael Saward, *Representation*, in *POLITICAL THEORY AND THE ECOLOGICAL CHALLENGE*, 183 (Robyn Eckersley & Dobson Andrew eds., 2006).

¹⁶See Will Steffen et al., *Planetary Boundaries: Guiding Human Development on a Changing Planet*, 347:6223 *SCIENCE* 1259855–1259855 (2015).

¹⁷See Niklas Luhmann, *LAW AS A SOCIAL SYSTEM*, at 472–3 (2004).

¹⁸See Karl-Heinz Ladeur, *The Emergence of Global Administrative Law and Transnational Regulation*, 3:3 *TRANSNAT'L LEGAL THEORY*, 243–67 (2012).

more rapid flows across state borders, exemplified both by global supply chains and environmental degradation at a global scale; and a resulting increase in the scope and ambition of demands on legal and political systems. Given that economic activities, and the consequences they generate for society and for ecosystems, spill across state borders, a need arises for forms of governance that can operate along similar dimensions. This is no easy task. On the one hand, Luhmann observed that the emergence of world society poses less of a challenge to cognitive social systems such as science and technology, as they circulate readily throughout the world because their validity is not anchored in place-based institutions or practices. Normative systems such as law, on the other hand, have more difficulty gaining purchase at global levels.¹⁹ Indeed, Luhmann, writing in 1975, expressed doubt as to whether the interaction between law and politics that makes positive law possible could be reproduced at the level of world society.²⁰ Yet global processes rely on norms as much as local or national processes.²¹

Many scholars building on Luhmann's arguments agree that global law is indeed structured differently. First, its validity is not necessarily grounded in state authority.²² Second, as illustrated by *lex mercatoria*²³ and colonial law,²⁴ it emerges through the legalization of a particular societal sector, in these two instances being closely bound up with economic logic. This gives rise to conflicts that, because of the heterodox nature of global law, cannot be resolved through references to jurisdictional boundaries or formal hierarchy. Regimes such as the World Trade Organization (WTO), or private regulatory authorities such as the Forest Stewardship Council, pursue objectives that are closely associated with a societal sector – international trade or the production of forestry products – and with a particular logic – economy or sustainability.²⁵ The boundaries around the sectors of activity of such regimes are highly contingent, giving rise to overlaps between the normative activities of regimes and thus to tensions and conflicts. To some extent, these regimes seek to address these conflicts internally: The WTO incorporates rules and principles relating to the environment and human rights into its own normative structure, and the Forest Stewardship Council seeks to create equilibrium or even integration among economic goals and sustainability and social justice goals. This does not prevent the occurrence of regime conflict, however, and when it arises, as Andreas Fischer-Lescano and Gunther Teubner note, it is not mere jurisdictional or normative conflict, but rather substantive conflict reaching down to the level of the logics and objectives that drive the respective projects of regimes.²⁶

The attention of scholars of global law thus turns to the means and resources available for addressing the many weaknesses and limitations of global law, and more in particular to the generation of connections among regimes. To some extent, the difficulties that are generated by the advent of global law can themselves be addressed through law, including legal norms to facilitate resolution of regimes collisions, to promote the movement of information and meaning from one context to another, and more generally to generate reasonably stable connections between regimes and social systems, connections that may be conceived of as nodes in a network.²⁷

¹⁹Luhmann, *supra* note 8.

²⁰See *Id.* at 57.

²¹See Poul F. Kjaer, *Constitutionalizing Connectivity: The Constitutional Grid of World Society*, 45:1 J. OF L. AND SOC'Y 114–134 at S125 (2018).

²²See Andreas Fischer-Lescano & Gunther Teubner, *Regime-Collisions: The Vain Search for Legal Unity in the Fragmentation of Global Law*, 25 MICHIGAN J. OF INT'L L., 999–1046 (2004). See also Gunther Teubner, "Global Bukowina: Legal Pluralism in the World Society," in *GLOBAL LAW WITHOUT A STATE*, 3 (1997).

²³See Gunther Teubner, *Breaking Frames: Economic Globalization and the Emergence of Lex Mercatoria*, 5:2 EUR. J. OF SOC. THEORY, 199–217 (2002).

²⁴See Poul F. Kjaer, "Facilitating Transfers: Regulatory Governance Frameworks as 'Rites of Passage'", 24 CONTEMP. POL. 1, 2 (2018).

²⁵See Fischer-Lescano & Teubner, *supra* note 22. See also Kjaer, *supra* note 21.

²⁶See Fischer-Lescano & Teubner, *supra* note 22.

²⁷See Kjaer, *supra* note 24.

One approach to building connections involves the re-entry of the logic of one system into another. Fischer-Lescano and Teubner illustrate this with reference to a conflict between Brazil and the United States regarding patent protection for American producers of anti-retroviral drugs to treat people living with AIDS. Far from being a mere conflict of the rules between two regimes, the World Health Organization (WHO) and the WTO, Fischer-Lescano and Teubner argue that it was a conflict between the rationalities of global health and of economics and thus had to be resolved within one regime or the other at that fundamental level. The approach taken by the WTO, namely a temporary suspension of the application of patent protection for AIDS medication, is an instance of the re-entry of the rationality of global health into the free trade regime. Such re-entry involves not the simple adoption of norms from one regime by another, but rather the re-constitution of the norm's meaning within the receiving regime.²⁸ Fischer-Lescano and Teubner also refer to the constitution within a given regime of an *ordre public* that will permit dispute resolution instances to suspend application of certain norms, generate exceptions to them, or interpret them narrowly in order to avoid conflicts with norms outside the regime.²⁹ Arbitral panels invoking the concept of *ordre public* do not purport to identify non-derogable norms at the level of world society but rather at the level of the regime in which they are operating, and in the context of the dispute they are addressing.

These approaches to resolving conflict may end up functioning reasonably well, at least in the sense that they eventually allow the respective regimes to continue the pursuit of their objectives.³⁰ But the uncertainty generated while the dispute is ongoing could seriously affect the functioning of the regimes, and the positions of the actors, engaged in the dispute. Less *ad hoc*, more predictable means of addressing such disputes or preventing them from emerging in the first place are required. Global law has developed such resources in the form of norms that facilitate connections between regimes and social contexts. Poul F. Kjaer refers to the connective dimension of normativity, arguing that global law is characterized by such connection-forming functions.³¹ Highly condensed components of meaning can be generated in one site and taken up elsewhere³² through connectivity norms "aimed at facilitating the separation, transmission, and incorporation of social components from one context to another,"³³ while at the same time reorganizing and reassembling meaning components.³⁴

Chris Thornhill argues that international human rights norms move between national and international law in such a manner, contributing to a nascent transnational constitutional order in the process.³⁵ Thornhill is somewhat unusual among scholars of global law in that he believes that political processes are deeply implicated in its construction. In addition, he sees the impetus for global law as arising from national societies rather than from transnational space. The crises of political and legal legitimation and validity at the level of domestic society are not, for Thornhill, the products of the rise of world society and global law; rather, global law emerges as domestic political and legal structures seek to address these crises at the national level.³⁶ Reference to and reliance upon international human rights law serves to promote the integration of all parts of society into political processes, making it possible for all problems of social order to be addressed, if not fully encapsulated, by law.³⁷ International human rights law also contributes to a reservoir of

²⁸See Fischer-Lescano & Teubner, *supra* note 22 at 1030. See also Teubner, *supra* note 23; Luhmann, *supra* note 17 at 115.

²⁹See Fischer-Lescano & Teubner, *supra* note 22 at 1032.

³⁰See Kjaer, *supra* note 24 at 12–13.

³¹See Kjaer, *supra* note 21 at S123.

³²See *id.* at S116.

³³*Id.* at S126.

³⁴See Kjaer, *supra* note 24 at 13.

³⁵See C. J. Thornhill, A SOCIOLOGY OF TRANSNATIONAL CONSTITUTIONS: SOCIAL FOUNDATIONS OF THE POST-NATIONAL LEGAL STRUCTURE, at 3 (2016).

³⁶See *id.* at 20, 24.

³⁷See *id.* at 4, 32.

legitimation that governments can draw on in seeking to respond to increasing demands for law as a means of addressing social conflicts.³⁸ International human rights law is drawn on for purposes proper to the national context, and as it is assimilated into national law it is modified to suit those purposes.³⁹ As we will see below, this can involve the restructuring of public law obligations directed at states into private law obligations, or components of such obligations, owed by private parties to one another.

It may be expedient for decision-making instances to refer to international human rights law for a range of reasons. For example, a national government emerging from a crisis may seek to tap into the legitimacy of an external body of norms, particularly if domestic legal, judicial, and political structures were implicated in the crisis, perhaps being closely associated with the faction that ultimately prevailed.⁴⁰ A non-state regulatory authority may be acutely aware of its self-constituted, bootstrapped status, and seek to anchor its normativity in external, neutral sources. Or a decision-making instance may, in the process of asserting jurisdiction over a transboundary dispute, wish to show that the norms it is applying are consonant with norms of more general application within and outside its jurisdiction.⁴¹

The question that now stands to be addressed is how these lessons from scholarship on global law may be relevant for the form of law in the Anthropocene. As noted above, certain features of the Anthropocene that are likely to generate both a need for law's contributions and the most significant challenges for law are the scope, scale, and speed of ecological change. With this comes heavy reliance on constantly evolving scientific knowledge; complexity and irreducible uncertainty; and rapidly changing legal norms and institutions. I propose to explore the resources available within private law, specifically civil liability, drawing on insights from global law to consider how connections among bodies of knowledge, social systems, and legal regimes could be made and re-made through the private law form.

C. Private Law and Environmental Degradation

I. Knowledge

The heavy dependence on scientific and technical knowledge of global law generally, and law in the Anthropocene in particular, would seem to indicate that the most appropriate form of law would be regulatory law, oriented around the pursuit of a particular material objective and the behavioral changes needed to move closer to that objective. There is no doubt that regulatory approaches have a vital role to play. Alongside them, however, there is space that private law forms can fill. The reasonable person standard at the heart of civil liability law is generally associated with the measures that one ought to take to avoid harm, but it also speaks to the knowledge that actors ought to possess or seek out regarding the risks that they generate.⁴² Defendants are not expected to “plough a lone furrow,”⁴³ taking extraordinary measures to investigate and explore risks. However, deliberately maintaining tactical ignorance may itself constitute unreasonable behavior.⁴⁴ Furthermore, the reasonable person standard generates connectivity between the

³⁸See *id.* at 25.

³⁹See *id.*

⁴⁰See Thornhill, *supra* note 35 at Chapter 5.

⁴¹See Chris Thornhill, *Transnational Constitutional Law*, in *THE OXFORD HANDBOOK OF TRANSNATIONAL LAW*, 143 (Peer Zumbansen ed., 2021).

⁴²See Maria Lee, *Safety, Regulation and Tort: Fault in Context*, 74:4 MODERN L. REV. 555–80 (2011).

⁴³*Thompson v. Smiths Shiprepairers* [1984] QB 405 at 415–16 (Eng.).

⁴⁴See Margaret A. Berger, *Eliminating General Causation: Notes Towards a New Theory of Justice and Toxic Tort*, 97 COLUM. L. REV. 2117 (1997). See also Eyal Zamir & Roi Yair, *Deliberate Ignorance*, 29 DELIBERATE IGNORANCE: CHOOSING NOT TO KNOW 299 (2021).

normativity of law and the facticity of information, knowledge, and practices.⁴⁵ It is designed for flexibility and adaptability, evolving in line with changing information and societal expectations. Its normativity permits not merely observation and passive acceptance of knowledge and practices—though passive, uncritical acceptance is a clear risk—but also evaluation of information and orientation to societal objectives. As a result, the reasonable person standard may function to consolidate pressures that economic actors are beginning to feel, albeit unevenly, to take seriously the externalized costs for individuals and societies that their activities generate.

Given the increasingly fragmented nature of knowledge, provoked by growth in social complexity and the resulting need for specialization,⁴⁶ the best strategy for actors is to engage with informational networks relevant to their sectors of activity. This is likely to be of particular importance for actors such as small or medium enterprises that do not possess the resources to seek out information on risk and its management on their own. Global sustainability law, then, becomes an important source of information as well as practical and normative guidance. Economic actors may engage with such standards and practices for self-interested reasons but, to the extent that the standards are robust and effective, those actors may end up improving their practices and reducing their environmental impacts. To be clear, this is a significant caveat. The reasonable person standard permits courts to observe these global law standards and, in principle at least, to evaluate them to ensure their rigor, fairness and even-handedness, and their propensity to include a wide range of actors and attend to multiple interests. In practice, however, it is very difficult for courts to make sense of multiple bodies of standards and certification programs, most of which are highly technical and thus opaque to most judges and lawyers, and some of which may lack transparency altogether. This is a difficult and important challenge, one that cannot properly be addressed in this Article.⁴⁷ What can be said is that the reasonable person standard provides a conduit through which standards drawn from global law may pass into domestic private law. One important result of this interaction could be the generation of incentives to adhere to these standards but also actively to pursue knowledge about the risks that one is generating and the means available to address those risks. I return to this theme in my discussion of UNGPs below.

The circulation of expert knowledge, condensed in the form of sustainability standards, through economic, legal, political, and other systems is certainly not sufficient to render Gaia knowable, but this cannot be their objective, not least because expert knowledge alone is utterly inadequate to the task. What could be accomplished, rather, is the strengthening and expansion of certain forms of conduits between the non-human world and legal normativity. These conduits are indirect, not permitting unmediated flows of communication between the two. The insights that they provide are modest but of crucial importance, particularly if we wish to avoid resort to highly instrumental, cognitivised forms of law at the expense of normative forms.

II. Complexity and Uncertainty

As noted, law's response to complexity and uncertainty could take the form of greater experimentation. Decisions must often be made on partial information and insights subject to rapid and unexpected change, and as a result, legislation should not be regarded as a finished project, but rather as an experiment. The implementation of legislation is not seen as the end of

⁴⁵See Karl-Heinz Ladeur, *The Postmodern Condition of Law and Societal "Management of Rules,"* 27:1 ZEITSCHRIFT FÜR RECHTSSOZIOLOGIE 87–108 (2006) (indicating that the reasonable person standard shares this characteristic with many legal concepts that play important roles in private law). See also Rónán Condon, NETWORK RESPONSIBILITY: EUROPEAN TORT LAW AND THE SOCIETY OF NETWORKS at 34 (2022).

⁴⁶See Condon, *supra* note 45 at 18.

⁴⁷Harm Schepel, *Constituting Private Governance Regimes: Standards Bodies in American Law,* in TRANSNATIONAL GOVERNANCE AND CONSTITUTIONALISM 161 (2004) (Harm Schepel's masterful analysis of interactions among courts, legislators, and standardization organizations provides extensive insights into the challenges of evaluating and analyzing highly technical standards and the resources that are available to courts and legislators in approaching this task).

the legislative process, but rather becomes part of that process as feedback loops inform the shape its further development ought to take.⁴⁸

Private law's deep implication in the protection and promotion of individual liberty generates obstacles to its deployment for public, society-wide purposes, unless one introduces a concept such as the invisible hand. The lessons of the past century or more indicate clearly and painfully that the pursuit of individual self-interest does not drive society towards sustainable activity compatible with thriving ecosystems—quite the contrary. However, private law *is* well suited to the pursuit of multiple different approaches to the interpretation and application of legal rules. When individual actors seek to solve their problems through law, they influence its development in myriad ways. When legal avenues do not appear to exist for the making of certain types of claims, they may be developed—often slowly and over the course of many frustrating failed attempts, it must be added.⁴⁹ Nor is there any guarantee that individual litigants will collectively push courts in the direction of greater environmental protection as well as pursuing their own more limited interests. But both the environmental conditions of the Anthropocene and potentially rapid and unpredictable changes in legal and political norms will generate vulnerabilities and exclusions from which law, including private law, may provide some relief.⁵⁰ As uncertainty and complexity make it more difficult to predict, *ex ante*, the consequences of a given legislative or political initiative, it becomes more important to ensure *ex post* access to the protection of the rights and interests of those who face unexpected consequences.

III. Flexibility, Adaptability, and Destabilization of Law

The rapidity of ecosystemic change and of the evolution of scientific understandings of ecosystems and human effects on them call for flexibility on the part of law, yet such rapid changes could undermine law by making it unfit for the task of stabilization of expectations. Legislative standards, contractual obligations, and obligations to avoid foreseeable harm are among the components of legal systems that allow actors to project themselves into an uncertain future. Connectivity norms could provide law with a heightened degree of responsiveness, flexibility, and capacity to learn while at the same time reducing sudden, rapid changes to legal norms and standards. The reasonable person standard, understood as a conduit among various sources of information about risk and expectations regarding risk management, and feedback regarding the material effectiveness of norms and standards, could serve such functions. Furthermore, the legal system's interaction with other social systems increases the resonance of legal decisions. A finding of liability against a firm is translated into the language of economic risk: Successful claims against a firm generate not only obligations to compensate but also exposure to further claims and make investing in or partnering with the firm riskier.

Not only does information about exposure to liability circulate widely, but it is rapidly transmitted through transnational networks. I conceptualize networks as constituted by actors, notably individuals and organizations, engaged in communication. Any communication that is received or observed by an actor creates a link between these two actors. Nodes develop where interactions among groups of actors are fairly frequent or intense. As networks become denser and more complex, communications are more likely to pass, often indirectly, between actors that have no direct contact or interaction with one another. Some of the key features of networks for our

⁴⁸See Ruhl, *supra* note 1.

⁴⁹See *Donoghue v. Stevenson*, [1932] AC 56 (displaying examples of such innovation which include various, often belated legal responses to industrialization and the rise of mass consumerism: The reinterpretation of the common-law duty of care). See also Louis 1868-1941 Josseland, *De la responsabilité du fait des choses inanimées*. (Paris, 1897) (discussing the imputation of responsibility of custodians of objects for harm caused by those objects' autonomous action); *Bazley v Curry*, 1999 SCC 692; Gregory C. Keating, *The Idea of Fairness in the Law of Enterprise Liability* (1997) 95 MICH. L. REV. 1266-1380 (suggesting it would be worth to look at the restructuring of employers' vicarious liability around the concept of enterprise liability).

⁵⁰See Ladeur, *supra* note 18.

purposes include their openness, the spontaneity with which they develop, though intentional generation of communicative links and constitution of network nodes is common as well, and the heterogeneity of participating actors and of their objectives, interests, and perspectives. Also worthy of emphasis is the interpretive work that inevitably occurs whenever communications are received or observed.⁵¹

By way of example, the judgment of a court is addressed first and foremost to the parties to a dispute, but also to other judges and jurists, to actors similarly situated to the parties for whom the judgment may provide vital information about how they should organize their affairs, and ultimately to any actor that has a direct or indirect interest in the judgment. When a court permits a suit against the parent of a firm operating in a separate jurisdiction on the ground that there is a plausible argument to be made that the parent owes a duty of care to those harmed by its subsidiary,⁵² the judgment resonates with a wide range of actors, though in very different ways. A civil society organization supporting victims of the subsidiary's actions may see the judgment, in part, through an ethical lens: The judgment may mean that those who have caused harm could be held to account. Investors and insurers may take the judgment as a signal to reassess their involvement with firms whose subsidiaries' activities generate risks for local populations that do not seem to be well managed. Environmental and human rights organizations may consider changing tactics: Rather than pressuring home and host states to hold firms to account through more stringent regulation and more rigorous implementation, they may elect to support claims in civil liability. The ultimate goal, of course, is changes in the behavior of firms: The broad resonance of such a judgment—or, better, a series of similar judgments in multiple jurisdictions—could bring pressure to bear on firms, pressure that takes multiple forms and comes from a range of quarters, to better manage the risks that their activities generate. It goes without saying that this rather straightforward type of cause-effect linkage is highly unlikely to arise; this sketch should be taken not as a prediction of how networks will enhance the strength of signals sent by communications such as judgments favorable to plaintiffs or the enactment of due diligence regulation. Rather, it is a schematic representation of these network effects.

One of the great advantages of these information networks is that they allow the coordination of a wide range of actors that might not otherwise seek one another out for purposes of collaboration. The circulation of information is facilitated by its condensation into a form that permits it to be extracted from one context and interpreted in another, but it does not depend on broad or deep normative consensus between actors located at different points in the network that make use of the information for their own purposes.⁵³ Informational networks are oriented not towards the pursuit of their participants' common objectives but the circulation of information, moving it quickly from sites where it is produced to sites where it may be acted upon, including courtrooms in favorable jurisdictions but also extending to potential insurers, investors, business partners, and clients. Such networks, in other words, are more cognitive than normative. This is advantageous, as it fosters coordination among actors that may be unable or uninclined to collaborate with one another. It is also contentious, however, as everything about these networks—the manner in which information introduced is compiled and selected for circulation, the ends and objectives pursued, the selection of information for decision and action—is of great normative importance. A ground-breaking decision that makes it easier for people exposed to toxic

⁵¹Jan A. Fuhse, *Verbindungen und Grenzen: Der Netzwerkbegriff in der Systemtheorie*, in *SOZIALE NETZWERKE KONZEPTE UND METHODEN DER SOZIALWISSENSCHAFTLICHEN NETZWERKFORSCHUNG* 300–01 (Johannes Weyer ed., 2014).

⁵²See *Vedanta Resources Plc and another v. Lungowe and Others* [2019] 20 UKSC (a modest but nevertheless significant judgment of the Supreme Court of the United Kingdom).

⁵³See L. Catá Backer, *From Moral Obligation to International Law: Disclosure Systems, Markets and the Regulation of Multinational Corporations*, 39 GA. J. OF INT'L L. 591 (2007) (presenting a similar point regarding the imposition of sustainability and human rights disclosure requirements on corporations: Individual consumers are able to act on this information on the basis of their own principles and priorities, lessening the need for material regulation based on consensus around a set of values and material objectives to be pursued).

substances in the workplace to obtain compensation, or one that permits citizens to sue a private entity for harm caused to public lands in which they have no legal interest, is stripped of its normative content as information about it passes through the network. Its normative meaning will be re-constituted by some network actors, while for others it will simply signal information about economic or other forms of risks to which they must react.

The way in which this normative deficit is evaluated will depend on the importance attributed to the motivations behind action. It may simply be expected that actors pursue a given objective for reasons of their own. Or it may be accepted that the achievement of a broad and deep consensus on the moral value of the objectives to be pursued is simply out of reach at the level of global society. It should also be noted that reasonable people will disagree about the most effective and appropriate means to pursue a given end, and that attempts to impose uniformity may be not only counter-productive but also in serious tension with pluralism and self-determination.

IV. Law, Politics, and Hyper-politicization

Above, I briefly invoked Thornhill's observations regarding the use of human rights, including reference to international law, as a means of promoting social inclusion and allowing the state to operate relatively evenly throughout society. One benefit of this is to take some pressure off political processes, as some conflicts may be resolved elsewhere in society.⁵⁴ In state after state around the world, we witness environmental protection and sustainable development law and policy coming to depend on the fortunes of individual political candidates and parties. Among the consequences of this are that, at any given time, a huge segment of the electorate does not see its interests being represented or promoted by the government in power. Another such consequence is that the pursuit of environmental protection and sustainable development comes to be a political liability, not just because such initiatives impose costs on many actors within society but because the alignment with environmental and sustainable development goals in and of itself becomes a partisan, ideological matter. Under such conditions, it may be possible for national governments to pursue environmental measures only briefly and haphazardly if at all. In such a context, it is hardly surprising to see a decisive turn towards courts in an effort to pressure both governments and private actors to pursue ambitious environmental policies.⁵⁵

Turning to private law for resolution of environmental disputes carries its own risks. While alleviating pressure on politics, unreasonable demands may be placed on law, resulting in its instrumentalization, or in its politicization.⁵⁶ If these outcomes are to be avoided, claims will likely have to hew closely to relatively well-recognized legally protected interests, that is, to human interests, resulting in a truncation of disputes to render them legally legible. The weaknesses and limitations of private law must be confronted as questions are asked about the roles it can and cannot play, and the contributions that could or likely cannot be expected of it.

If one accepts that private law may have some role to play in disputes about environment and sustainability at a domestic level, the fact remains that the Anthropocene is a global phenomenon. In what follows, I seek to make more explicit connections between domestic private law and global law. In order to render the discussion more concrete, I will incorporate an analysis of the role of the UNGPs.

⁵⁴See Thornhill, *supra* note 35 at Chapter 6.

⁵⁵See, e.g., Pau De Vilchez Moragues, CLIMATE IN COURT: DEFINING STATE OBLIGATIONS ON GLOBAL WARMING THROUGH DOMESTIC CLIMATE LITIGATION (2022).

⁵⁶*Contra* Douglas A Kysar, *The Public Life of Private Law: Tort Law as a Risk Regulation Mechanism* 9:1 EUR J. OF RISK REGUL., 48–65 (2018).

D. The UNGPs as connectivity norms

In what follows, I will argue that the structure of the UNGPs generates potential points of connection among sustainability standards embedded in global law, international human rights law, and the domestic law of civil liability. The central point of connection is between the due diligence responsibilities articulated in the UNGPs and the reasonable person standard. Readers may find my sketch of the UNGPs to be far too flattering, but this is not my intent. Rather than describing the current operation of the UNGPs or making predictions about the likely course of their development, I am indicating possible pathways and points of connection, thus drawing attention to the potential of these Principles. This potential is highly unlikely to be fully realized, but the precise manner in which the UNGPs will fall short of expectations is not clearly understood at this point.

The UNGPs are non-binding principles that purport, among others, to identify behaviors and actions that economic actors, notably multinational corporations (MNCs) ought to engage in to protect and promote human rights. To my mind, one of the key features of the UNGPs is their epistemic requirements.⁵⁷ Firms are called upon to gather and analyze data regarding risks of human rights violations that are posed by them, by other entities within their corporate groups, and throughout their supply chains.⁵⁸ At present, the UNGPs do not address environmental protection directly, though environmental degradation which causes human rights violations would be captured. Nevertheless, the overall structure and form of the UNGPs, and their position in an emerging normative constellation that incorporates binding and soft international, transnational, and domestic law, are potentially promising as an avenue to address environmental harms more broadly.⁵⁹

The UNGPs do not formally incorporate the reasonable person standard,⁶⁰ but the degree of resonance between their due diligence responsibilities and the reasonable person standard are difficult to ignore⁶¹ and may be relatively easy to exploit. The UNGPs inform the content of the reasonable person standard as it applies to corporations: Information is to be gathered, and action taken, on risks of human rights violations by a corporation itself, by firms within its corporate group, and by contractual partners in its supply chain.⁶² Structurally, the norm involves a conception of the MNC not as a series of legal persons but, in the words of Larry Catà Backer, “a conduit – a convenient intangible aggregation of the nexus points that together define the arc of its operation, or even as the framework within which global production is coordinated (and with it risk allocated and the distribution of value added directed).”⁶³ On one hand, the UNGPs, as a non-binding text, can readily articulate ambitious standards that go well beyond formal legal requirements, for example by calling on firms to analyze risks throughout their value chains.

⁵⁷See Office of the High Commissioner for Human Rights, *supra* note 3 (noting key provisions which include Principle 15 (b), calling for “[a] human rights due diligence process to identify, prevent, mitigate and account for how they address their impacts on human rights.” Further detail on human rights due diligence is provided in Principle 17, which is described as including assessing actual and potential risks of human rights impacts, taking action based on the findings, and following up on that action).

⁵⁸See Office of the High Commissioner for Human Rights, *supra* note 3 (noting that Principle 18 states that analysis risks of human rights violations should extend to firms’ own activities as well as risks generated “as a result of their business relationships.”).

⁵⁹See Elise Groulx Diggs, Milton C. Regan, Jr., Béatrice Parance, *Business and Human Rights as a Galaxy of Norms*, 50 GA. J. OF INT’L L. 309 (2018).

⁶⁰See John G. Ruggie & John F. Sherman III, *The Concept of “Due Diligence” in the UN Guiding Principles on Business and Human Rights: A Reply to Jonathan Bonnitcha and Robert McCorquodale*, 28:3 EUR. J. OF INT’L L. 921–28, 923 (2017).

⁶¹See Jonathan Bonnitcha & Robert McCorquodale, *The Concept of “Due Diligence” in the UN Guiding Principles on Business and Human Rights*, 28:3 EUR. J. OF INT’L L. 899–919 (2017).

⁶²See Office of the High Commissioner for Human Rights, *supra* note 3, Principle 17.

⁶³Larry Catà Backer, *The Problem of the Enterprise and the Enterprise of Law: Multinational Enterprises as Polycentric Transnational Regulatory Space*, in THE OXFORD HANDBOOK OF TRANSNATIONAL LAW 777, 779 (Peer Zumbansen ed., 2021) (footnotes omitted).

On the other hand, the UNGPs are directly relevant to the content of the reasonable person standard, in this case indicating expectations that firms be proactive regarding risks posed by subsidiaries and business partners.

Simply ignoring or paying lip service to the Principles is clearly an option for firms. However, the UNGPs do not operate in a vacuum. Rather, they interact with a range of standards, practices, codes of conduct, and legal texts, as well as with domestic civil liability law.⁶⁴ There has been a modest movement towards recognizing that parent corporations may owe a duty to take reasonable care to plaintiffs harmed by the actions of their subsidiaries.⁶⁵ Thus far, these cases have mainly turned on actions or undertakings by the parent corporation itself, features of the interactions between parent and subsidiary that indicate a supervisory role on the part of the parent, and other factual elements. One potential inconvenience is that firms will take instruction from these judgments in order to determine how best to *avoid* the imposition of a duty. However, the tenor of the UNGPs is that firms are expected to gather and analyze information about risks within their supply chains. Tactical ignorance of the affairs of their subsidiaries and business partners is not compatible with the Principles and, to the extent that the Principles grow more influential, could come to be incompatible with the reasonable person standard as well. Furthermore, legislation in many jurisdictions setting out reporting obligations for firms,⁶⁶ as well as a small but growing number of statutes explicitly creating risk assessment and management obligations for firms in the areas of human rights and environment,⁶⁷ could contribute to shifting expectations, notably for large, well-resourced firms that exercise influence in industry sectors and that may be in a position to require adherence to standards of their subsidiaries and contracting partners. In light of these changing expectations, courts may conclude that firms that do not look over the shoulders of their subsidiaries and contracting partners have not behaved reasonably.

To summarize the above discussion, the reasonable person standard operating on its own suffers from jurisdictional limitations and from limitations arising from the legal personality of corporations, but there are some avenues available to address these limitations, flowing in particular from the non-legally binding UNGPs, from signals by courts that firms may be exposed to risks of liabilities across borders and throughout value chains, and from a small but growing number of domestic due diligence statutes. The result is that expectations, and in some cases legal obligations, imposed on firms are changing. Firms are increasingly expected actively to seek out

⁶⁴*Loi relative au devoir de vigilance des sociétés mères et des entreprises donneuse d'ordre*, 2017; *Directive of the European Parliament and of the Council on Corporate Sustainability Due Diligence and amending Directive*, 2022; *Gesetz über die unternehmerischen Sorgfaltspflichten zur Vermeidung von Menschenrechtsverletzungen in Lieferketten (Lieferkettensorgantspflichtengesetz – LkSG)*, 2021.

⁶⁵*See Chandler v. Cape plc* [2012] EWCA (Civ) 525 (Eng.) (finding that a duty of care was owed by a parent firm to plaintiffs harmed by actions of its subsidiaries); *Vedanta Resources PLC v. Lungowe* [2019] 20 UKSC (Eng.) (rejecting a motion to dismiss because allegations of a duty of care owed by a parent company did not have no chance of success); *Okpabi and others v. Royal Dutch Shell Plc and another* [2021] 3 UKSC (Eng.) (rejecting a motion to dismiss because allegations of a duty of care owed by a parent company had a reasonable chance of success). *But see AAA & Others v Unilever Plc* [2018] EWCA (Civ) (granting a motion to dismiss on the grounds that it was not reasonably likely that the parent company owed a duty of care for the actions of the subsidiary) (Appeal to Supreme Court denied); *Choc v. Highbay Minerals Inc.*, 2013 ONSC 1414 (Can.) (rejecting a motion to strike and allowed plaintiffs to proceed to trial with a duty of care allegation). *Compare Caparo Industries plc v. Dickman*, [1990] UKHL 2 (describing that the principles governing the duty of care in England are assessed in light of ordinary duty of care considerations and the determination if a duty of care depends heavily on factual elements such as the involvement of the parent in the subsidiaries activities, representations made by the parent, and assumption of control by the parent of activities of the subsidiaries), with *Cooper v. Hobart*, [2001] 3 S.C.R. 537 (Can.) (treating the plaintiff's claim as a novel duty of care argument and placing an emphasis on the proximity of the plaintiff and defendant).

⁶⁶*See* Modern Slavery Act, 2015 (Eng.). *See also* Foreign Corrupt Practices Act, 15 U.S.C. § 78dd-1 (1977), 1977; Child Labour Due Diligence Act, 2019 (Neth.).

⁶⁷*Loi relative au devoir de vigilance des sociétés mères et des entreprises donneuse d'ordre*, *supra* note 64; *Directive of the European Parliament and of the Council on Corporate Sustainability Due Diligence and amending Directive*, *supra* note 64; *Gesetz über die unternehmerischen Sorgfaltspflichten zur Vermeidung von Menschenrechtsverletzungen in Lieferketten (Lieferkettensorgantspflichtengesetz – LkSG)*, *supra* note 64.

information on risks of human rights violations and, in light of some of the domestic legislation, violations of environmental protection obligations, posed within their corporate groups and value chains. The reasonable person standard is capable of absorbing these changing expectations and of transforming them into legal standards the violation of which may result in liability. Furthermore, while environmental harm *per se* remains beyond the scope of the UNGPs, expectations regarding firms' responsibilities to internalize environmental harms and take measures to avoid them are changing as well, as witnessed by a plethora of domestic, transnational, and international environmental standards. Once again, the reasonable person standard is, in principle at least, able to tap into these standards and make them available for assessments of the reasonableness of corporate action to forestall harm.

That the UNGPs rely on international human rights law is clearly no accident. Here, violations of these norms are reconceptualized as risks that economic actors ought to take steps to avoid, both through information-gathering and analysis and through taking concrete measures. One advantage of this risk framework is that it permits the value chain to be encompassed in the scope of activities for which a firm may be held accountable. It also provides an additional point of contact between the reasonable person and international human rights law: While courts are prepared to draw on constitutional and international norms to inform the nature and scope of privately protected interests and correlative obligations, the UNGPs facilitate a conception of human rights violations as harms caused by failure to take reasonable steps to investigate and address risks generated by a firm's activity. Furthermore, when liability claims cross boundaries, the points of connection between the reasonable person standard and human rights serves to bring international law home, as it were, through resonance with domestic norms—constitutional, criminal, administrative, and private—that address the same kinds of conduct, harms, and interests as international human rights law, though in different ways and contexts. The transformation of an international human rights norm into an interest that firms must take reasonable care to avoid interfering with does not sever the connection between domestic private and international public law, however. As Thornhill argues, this link serves to generate a reservoir on which courts—and legislators—can draw to bolster the legitimacy of legal rules, or of novel interpretations and applications of them.⁶⁸ Thornhill argues further that this is increasingly done through the law alone, rather than through institutions that have a clear political mandate.⁶⁹ Moreover, this autonomous action of the law is available in the transboundary spaces in which many disputes regarding harm caused by MNCs are located.⁷⁰

E. Concluding remarks

The approach that I have sketched is designed to promote conversation between private and public law as well as with the growing body of standards and norms that are promulgated by intergovernmental organizations and non-state actors, among others. This interaction among bodies of norms has the potential to promote certain regulatory dimensions of private law beyond its normal remit by aligning the reasonable person standard with collective environmental objectives and putting private law to work in the public interest. It could also promote robust interaction between private law understandings of reasonable behavior, and therefore wrongfulness, and scientific and other forms of expert knowledge on emerging ecosystemic risks and the range of available responses to them.

⁶⁸See Thornhill, *supra* note 35 at 5.

⁶⁹See *id.* at 368.

⁷⁰See *id.*

Communications from one system to another are always subject to translations as their meaning is constituted anew in the language and logic of the receiving system.⁷¹ The approach thus seeks to promote the persistence of the normative form and to prevent its being swallowed whole by cognitive standards and rules. At the same time, however, the pressure of time and the sheer scope and scale of ongoing ecosystem degradation demand the rapid circulation of information as well as action on the basis of that information that is quicker and more responsive than what could be delivered through centralized forms of decision-making alone. In the Anthropocene, there is no luxury of time to reach laboriously constructed consensus regarding the pathways to be taken, nor to coordinate action globally along these pathways. Centralized decision-making at national and international levels remains an essential component of governance in the Anthropocene, but it must be complemented by flexible, decentralized approaches as well.⁷² The insights and creativity needed to forge new paths occur in multiple sites and what is needed now is to foster experimentation and innovation at those sites rather than expecting all solutions to come from centralized decision-making processes. This multiplicity of decision-making sites is also important for a further reason. While we move ever closer to broad consensus on the imperative to act against ecological destruction, selecting the means through which action is to be taken is difficult and challenging, not least because different approaches to sustainability lead to different distributions of costs and benefits. Not only are the costs of environmental degradation and environmental protection measures distributed unevenly and inequitably, but many of these costs are also difficult to predict. Sound environmental protection will therefore depend on sensitivity to feedback from multiple sources, both about the effectiveness of environmental measures as well as about the unintended and undesirable side-effects that they produce.

The Anthropocene may have been brought about largely behind our backs through myriad individual acts over decades and centuries, but responsibility for addressing wrongs and forging a better path forward falls to humans, as well as communities and institutions, in the present. Taking responsibility in this context can no longer refer to simply pointing fingers at causal agents. Instead, we must recognize our responsibility for navigating law's evolving relationship with dimly understood, unpredictable, and powerful co-constituent forces. Forms of law based on a planning logic that moves backwards from ecosystemic objectives to human actions need to be supplemented by forms of law that work the other way around and that take seriously relations among humans as well as interactions of agents with law. Private law's decentralized structure, and its simultaneous pursuit of multiple objectives,⁷³ including non-instrumental objectives such as fairness and even-handedness, may make a modest contribution to these ends. Furthermore, the concepts of responsibility, wrongfulness, and individual obligation that work their way through private law may promote the development of feedback loops between the top-down, centralized, planning-oriented administrative law and bottom-up, decentralized private law that pursues multiple objectives.

⁷¹See G. Teubner, *The Two Faces of Janus: Rethinking Legal Pluralism*, 13 CARDOZO L. REV. 1443, at 1452 (1991). See also M. Weber, MAX WEBER: READINGS AND COMMENTARY 185 (S. Kalberg ed., 2005) (emphasizing how Weber pointed out that the reasons for actors' following norms vary from one actor to another, one context to another, one type of norm to another, and so forth. While I would wish that CEOs act on the basis of deep commitment to ecosystem resilience, I am content with rigorous environmental protection actions that are taken on an economic basis).

⁷²See E. Ostrom, *Polycentric Systems for Coping with Collective Action and Global Environmental Change*, 20 GLOB. ENV'T CHANGE 550 (2010). See also M. Hulme, *Cosmopolitan Climates: Hybridity, Foresight and Meaning*, 27 THEORY, CULTURE & SOC'Y 267 (2010).

⁷³See N. Onuf, *Do Rules Say What They Do? From Ordinary Language to International Law*, 26 HARV. INT'L L. J. 385 (1985) (borrowing an expression from Nicholas Onuf, private law norms do not say what they do). See also Paul B. Miller, *The New Formalism in Private Law*, 66:2 AMERICAN J. OF JURIS. 175–238 (2021) (indicating that we can and do speak of the objectives of private law norms, and often filter our interpretations of those norms through objectives which we wish to place in the foreground; nevertheless, efforts at essentializing private law never quite succeed. Civil liability is clearly not only about providing compensation for harm wrongfully caused, or distributing loss efficiently, or altering incentive structures to promote due diligence, or about bringing predictability to interactions that permits agents to plan and order their affairs.)

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