

This is an Open Access document downloaded from ORCA, Cardiff University's institutional repository: <https://orca.cardiff.ac.uk/id/eprint/118546/>

This is the author's version of a work that was submitted to / accepted for publication.

Citation for final published version:

Stokes, Elen 2019. Wanted: Professors of foresight in environmental law! *Journal of Environmental Law* 31 (1) , pp. 175-186. 10.1093/jel/eqz004

Publishers page: <https://doi.org/10.1093/jel/eqz004>

Please note:

Changes made as a result of publishing processes such as copy-editing, formatting and page numbers may not be reflected in this version. For the definitive version of this publication, please refer to the published source. You are advised to consult the publisher's version if you wish to cite this paper.

This version is being made available in accordance with publisher policies. See <http://orca.cf.ac.uk/policies.html> for usage policies. Copyright and moral rights for publications made available in ORCA are retained by the copyright holders.



WANTED: PROFESSORS OF FORESIGHT IN ENVIRONMENTAL LAW!

Elen Stokes*

Wanted: Professors of Foresight!

In a 1932 BBC Radio broadcast, author H.G. Wells remarked:

It seems an odd thing to me that though we have thousands and thousands of professors and hundreds of thousands of students of history working upon the records of the past, there is not a single person anywhere who makes a whole-time job of estimating the future consequences of new inventions and new devices. *There is not a single Professor of Foresight in the world. But why shouldn't there be?*¹

Wells pressed the need to devise ways of adapting to rapid and accelerating change, warning of the ill-thought-through effects of an ever-shrinking world. Soon, he predicted, '[y]ou will be able to see and talk to your friends anywhere in the world as easily and surely as you send a telegram today'.² Nowadays we might refer to this phenomenon as the 'time-space compression',³ but even without such terminology the basic idea is the same: advances in technology, commodity production and capital accumulation have caused relative distances between places (measured in travel time or cost) to contract, creating a sense that the world is becoming smaller and more interconnected but also more unstable. The overriding impression is of a sharp and debilitating acceleration in the pace of economic processes and hence of social life, which in turn provokes feelings of insecurity and uncertainty as the future runs away with itself. Although Wells recognised the very real benefits of developments in travel and communication, describing the telegraph, the steamship and the railway train as 'triumphs', he warned that '[w]e are all of us behaving as though there were no need whatever to adapt our lives and ideas in any way to

* Cardiff Law School (stokese1@cardiff.ac.uk). I am grateful to Barbara Adam, Ben Richardson, the anonymous reviewer and the editors whose comments have greatly assisted with revisions to earlier drafts. Views, errors and omissions are my own.

¹ HG Wells, 'Wanted: Professors of Foresight!' (23 November 1932) *The Listener* 729, emphasis added. Of course, this was not Wells' first or only examination of time and the future. See, for example, HG Wells, *The Time Machine* (Heinemann 1895); and H.G. Wells, 'The Discovery of the Future' (1902) 65 *Nature* 326.

² Wells (n 1)

³ eg David Harvey, *The Condition of Postmodernity: An Enquiry into the Origins of Cultural Change* (Blackwell 1989) Chs 16 and 17; Doreen Massey, 'A Global Sense of Place' (1991) *Marxism Today* 24; and Jon May and Nigel Thrift, 'Introduction' in Jon May and Nigel Thrift (eds) *TimeSpace: Geographies of Temporality* (Routledge 2001) Ch 1.

these new conditions'.⁴ 'See how unprepared our world was for the motor car',⁵ he lamented. The solution, as he saw it, was to create 'whole Faculties and Departments of Foresight doing all they can to anticipate and prepare for the consequences'.⁶

The Future as a Field of Inquiry

Were he alive today, Wells would surely be pleased that progress has been made along these lines. 'Futures studies' has evolved into a distinct genre of professional practice and academic inquiry, if not a discipline in its own right.⁷ There are now numerous university departments and research institutes of foresight and futures studies, some offering whole degree programmes in the subject.⁸ The United Nations Educational, Scientific and Cultural Organization (UNESCO) has awarded UNESCO Chairs both in Anticipatory Systems and in Socio-Cultural Anticipation and Resilience, roles created to improve the anticipatory capacities of individuals, communities and organisations and to advance what it calls 'futures literacy'.⁹ There is an Association Internationale Futuribles, a World Futures Studies Federation and an Association of Professional Futurists, to name but a few examples of the organisations set up to bring new insight and rigour to futures practice and theory. Governments have strategies, teams and toolkits for systematically gathering intelligence about the future, exploring the dynamics of change and developing and testing future policy.¹⁰ The effectiveness of these initiatives is debatable,¹¹ not least because it can be difficult to credit any one exercise in scenario planning or horizon scanning for policy success. Still, there is an extraordinary appetite for futures thinking and analysis in many spheres of contemporary life, not just in politics and

⁴ Wells (n 1).

⁵ *ibid.*

⁶ *ibid.*

⁷ Richard Slaughter, 'Futures Studies as an Intellectual and Applied Discipline' (1998) 42 *American Behavioral Scientist* 372; cf Michael Marien, 'Futures-Thinking and Identity: Why "Futures Studies" is not a Field, Discipline, or Discourse: A Response to Ziauddin Sardar's "the Namesake"' (2010) 42 *Futures* 190.

⁸ For instance, Masters level courses in Futures Studies are offered by the University of Kerala's Department of Future Studies, the University of Stellenbosch's Institute of Futures Research, and Tamkang University's Graduate Institute of Futures Studies. The Corvinus University of Budapest's Futures Studies Department has a specialist PhD route in futures studies; and Aarhus University runs PhD programmes in Organizational Future Orientation and Corporate Foresight.

⁹ UNESCO, 'UNESCO Pioneers Futures Literacy'

<https://en.unesco.org/sites/default/files/myreformstory_riel-miller.pdf> accessed 30 December 2018. See also Riel Miller, 'Learning, the Future, and Complexity: An Essay on the Emergence of Futures Literacy' (2015) 50(4) *European J of Education* 513.

¹⁰ In the UK, for example, the Horizon Scanning Programme team coordinates strategic horizon scanning work across Government departments, and the Health & Safety Executive has its own Foresight Centre. See also Government Office for Science (GO-Science), *The Futures Toolkit* (GO-Science 2017).

¹¹ Science and Technology Committee, *Government Horizon Scanning* (HC 2013-14 703).

policy-making¹² but also in corporate management,¹³ the third sector¹⁴ and even the most personal aspects of human activity.¹⁵ This intense preoccupation with the future – and in particular with the idea that the future can be pre-empted, made to happen, militated against and tinkered with – is said to be a defining feature of the modern era.¹⁶ Being able to predict or speculate about future dangers or other unwanted consequences and act before they materialise is considered an integral part of advanced liberal democracies.¹⁷ But despite the apparent rise and institutionalisation of futures consciousness, Wells's exhortation all those years ago has if anything become more, not less, pressing.

Environmental crises such as climate change, unsustainable energy systems, biodiversity loss and ocean plastic pollution have triggered a surge of research into the importance of preparedness and anticipatory action.¹⁸ In this regard, scholarship on environmental law has tended to focus on the role played by environmental principles – for example, sustainable development, the precautionary principle, and the principle of prevention – in averting, lessening or managing potentially serious or irreversible threats to human health and the environment.¹⁹ Intriguingly, however, there has been little systematic research about how environmental law, and law generally for that matter, engages with the taken-for-granted category of 'the future'.²⁰ In discussions of the precautionary principle, for instance, the future comes into the picture but only indirectly. It is a shadowy backdrop to the more significant event of legal decision-making – it is treated as incidental to present attempts to deal

¹² See eg Louise Amoore, *The Politics of Possibility: Risk and Security Beyond Probability* (Duke University Press 2013); and Rob A. DeLeo, *Anticipatory Policymaking: When Government Acts to Prevent Problems and Why It Is So Difficult* (Routledge 2017).

¹³ See eg Alberto De Toni, Roberto Siagri and Cinzia Battistella, *Corporate Foresight: Anticipating the Future* (Lidia Cremonese tr, Routledge 2017).

¹⁴ See eg Veronica Davidov and Ingrid Nelson, 'It's About Time: Temporality as a Lens for NGO Studies' (2016) 36 *Critique and Anthropology* 3.

¹⁵ See eg Jennice Vilhauer, *Think Forward to Thrive: How to Use the Mind's Power of Anticipation to Transcend Your Past and Transform Your Future* (New World Library 2014).

¹⁶ See eg Ulrich Beck, *Risk Society: Towards a New Modernity* (Mark Ritter tr, Sage 1992); and Zygmunt Bauman, *Liquid Modernity* (rev edn, Polity Press 2012).

¹⁷ For illuminating discussion, see Vincanne Adams and others, 'Anticipation: Technoscience, Life, Affect, Temporality' (2009) 28 *Subjectivity* 246; and Ben Anderson, 'Preemption, Precaution, Preparedness: Anticipatory Action and Future Geographies' (2010) 34 *Progress in Human Geography* 777.

¹⁸ See eg Gavin Brown and others, 'Holding the Future Together: Towards a Theorisation of the Spaces and Times of Transition' (2012) 44 *Environment and Planning A: Economy and Space* 1607; Louis Kotzé (ed) *Environmental Law and Governance for the Anthropocene* (Hart 2017); and Zeke Bajer, Julia Ekstrom and Louise Bedsworth, 'Climate Information? Embedding Climate Futures within Temporalities of California Water Management' (2018) 4 *Environmental Sociology* 419.

¹⁹ Major works include Nicolas de Sadeleer, *Environmental Principles: From Political Slogans to Legal Rules* (OUP 2002); Elizabeth Fisher, *Risk Regulation and Administrative Constitutionalism* (Hart 2007); and Eloise Scottford, *Environmental Principles and the Evolution of Environmental Law* (Hart 2017).

²⁰ Notable exceptions include Sheila Jasanoff, 'Future Imperfect: Science, Technology, and the Imaginations of Modernity' in Sheila Jasanoff and Sang-Hyun Kim (eds) *Dreamscapes of Modernity: Sociotechnical Imaginaries and the Fabrication of Power* (University of Chicago Press 2015) ch 1; and Chris Hilson, 'Framing Time in Climate Change Litigation' (2018) *Oñati Socio-Legal Series*, <https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3179384> accessed 30 December 2018.

with environmental risks, and as the inevitable outcome of whatever is decided in the here and now. The passage of time is addressed more explicitly by critical works on sustainable development, through the analysis of long-term sustainability goals and intra- and inter-generational equity,²¹ but even in this context the future has yet to receive sustained scrutiny from the perspective of law. What is missing is any widespread recognition of the *legal* temporalities at play here, which requires an expanded understanding of how law's rules, institutions and discourses work to construct the future they are then deployed to regulate. Rather than existing somewhere 'out there' in the external world, to be thought about and acted upon, the future is actually produced through legal techniques and interventions. This gap in the literature is particularly prominent in environmental law, a field that appears so consciously and openly future-oriented.²² Although the gap is beginning to be closed by an impressive scholarship on law-and-time,²³ which takes us a considerable way towards understanding how legal mechanisms come to embody certain temporal (and spatial) practices, legal scholars – insofar as they have discussed law's temporalities – have paid far greater attention to history and context than to the future as an entry point for analysis.²⁴

Of course, it is problematic to suggest that the future can be examined entirely separately, in isolation of the past and the present, since the multiple layers of anticipation, experience and memory overlap and fold into one another.²⁵ Each is drawn upon in the production of the other – just as my sense of the future is built out of my personal background, so too is your relationship with the 'not yet' bound up with your own lived experience. But even on a joined-up 'processual' (instead of a

²¹ See eg Edith Brown Weiss, 'In Fairness to Future Generations and Sustainable Development' (1992) 8 *American University International Law Review* 819; Mary Christina Wood, "'You Can't Negotiate with a Beetle": Environmental Law for a New Ecological Age' (2010) 50 *Natural Resources Journal* 167; and Klaus Bosselmann, *The Principles of Sustainability: Transforming Law and Governance* (2nd edn, Routledge 2016).

²² One of the most iconic texts in environmental law and policy studies is World Commission on Environment and Development, *Our Common Future* (OUP 1987).

²³ Standout examples include Carol Greenhouse, 'Just in Time: Temporality and the Cultural Legitimation of Law' (1989) 98 *Yale LJ* 1631; Jiří Přibáň, *Legal Symbolism: On Law, Time and European Identity* (Ashgate 2007); Annelise Riles, 'Collateral Expertise: Legal Knowledge in the Global Financial Markets' (2010) 51 *Current Anthropology* 795; John Harrington, 'Time as a Dimension of Medical Law' (2012) 20 *Medical Law Review* 491; Renisa Mawani, 'Law as Temporality: Colonial Politics and Indian Settlers' (2014) 4 *UC Irvine Law Review* 65; Mariana Valverde, *Chronotopes of Law: Jurisdiction, Scale and Governance* (Routledge 2014); and Emily Grabham, *Brewing Legal Times: Things, Forms, and the Enactment of Law* (Toronto University Press 2016).

²⁴ For historical legal analyses in the environmental context, see eg Ben Pontin, 'Integrated Pollution Control in Victorian Britain: Rethinking Progress within the History of Environmental Law' (2007) 19 *JEL* 173; Noga Morag-Levine, 'Is Precautionary Regulation a Civil Law Instrument? Lessons from the History of the Alkali Act' (2011) 23 *JEL* 1; Ben Pontin, 'The Common Law Clean Up of the "Workshop of the World": More Realism About Nuisance Law's Historic Environmental Achievements' (2013) 40 *JLS* 173; and Mark Wilde, 'All the Queen's Horses: Statutory Authority and HS2' (2017) 37 *Legal Studies* 765.

²⁵ See generally Reinhart Koselleck, *Futures Past: On the Semantics of Historical Time* (Keith Tribe tr, Columbia University Press 2004); and Mark Currie, *The Unexpected: Narrative Temporality and the Philosophy of Surprise* (Edinburgh University Press 2015).

discontinuous ‘ruptural’²⁶) account of law’s times, the future has been given relatively short shrift, its legal significance often having been assumed rather than seen as a proper site of investigation. The temptation is to see law as primarily concerned with fixing schedules and deadlines for action, but this risks overlooking the more subtle ways in which law arrives at, stabilises and publicly performs some versions of the future and not others. For example, criticising climate change legislation for its short-termism offers only part of the story – there are equally if not more substantial questions to ask about how, under the legislation, certain flows of power and knowledge become so institutionally embedded that they outlive their original rationale. Certainly in environmental law there is scope to probe these issues further.

Time and Environmental Law

Environmental law brings diverse empirical materials to the study of time. Benjamin J. Richardson’s recent book, *Time and Environmental Law: Telling Nature’s Time*,²⁷ makes an important contribution in this and a great many other respects. It provides a rousing critique of modern-day environmental law and governance, arguing that because current regulatory arrangements are ‘too temporally one-dimensional’ and ‘preoccupied with the present’, they have ‘failed to help human culture become attuned to Earth’s timescales’.²⁸ Richardson’s focus is the temporal mismatch between, on the one hand, the rhythms and sequences of ecological time, and on the other, the relentless march of industrial, technological and economic progress in which law is complicit. The difficulty, says Richardson, is two-fold. Not only is environmental law too limited in its temporal reach to deal effectively with polluting incidents of the past or potential environmental harms in the future, but – more insidiously – it also helps to create the conditions in which environmentally damaging practices can flourish. This means that, to have any chance of achieving greater synchronicity between law and nature, we must delve beneath the surface of individual legal rules into the deeper, structural determinants of environmental outcomes. Accordingly, the book aims to instil in law an ‘ecological timescape’,²⁹ a term adapted from the pioneering work of sociologist Barbara Adam,³⁰ so that nature’s time and legal time (and, by extension, social time) might be better aligned. Such alignment, explains Richardson, requires an appreciation of the Earth’s ‘deep time’,³¹ that is, geological time that goes far beyond everyday human experience.³² It is only by situating law within this larger time frame that we begin to see how ‘human

²⁶ On temporal process and rupture in historical and anthropological analysis, see eg Matt Hodges, ‘The Time of the Interval: Historicity, Modernity, and Epoch in Rural France’ (2010) 37 *American Ethnologist* 115.

²⁷ Benjamin J. Richardson, *Time and Environmental Law: Telling Nature’s Time* (CUP 2017).

²⁸ *ibid* 7.

²⁹ *ibid* 8.

³⁰ Barbara Adam, *Timescapes of Modernity: The Environment and Invisible Hazards* (Routledge 1998).

³¹ Richardson (n 27) 39.

³² Henry Gee, *Deep Time: Cladistics, the Revolution in Evolution* (Fourth Estate 2001) 26. See also Dipesh Chakrabarty, ‘Climate and Capital: On Conjoined Histories’ (2014) 41 *Critical Inquiry* 1.

beings are embedded in and inseparable from nature, [and] our notion of time cannot remain indefinitely divorced from the behaviour of natural systems'.³³ Ending this separation is no small challenge and is something that continues to perplex scholars from a variety of disciplines,³⁴ for there are no easy conceptual bridges across such a well-entrenched division. Richardson's book is not short on ambition, sitting as it does at the intersection of a diverse range of fields – including law's usual bedfellows of politics and public policy, as well as less familiar companions of science and technology studies, archaeology and art. Indeed, its energy and richness derive in large part from its cross-disciplinary, kaleidoscopic look at law.

The book's eclectic, rather than classically disciplined, approach is an enormous strength. Nobody on finishing reading it could remain unpersuaded of the need for legal change. So comprehensive is Richardson's assessment of the time-related failings of environmental law – its inertia, its amnesia, its short-sightedness, its lack of imaginative capacity – that it is easy to come out of it feeling a little dispirited and hopeless. *How can we have failed to see and address these problems for this long?* Although other scholars have expressed reservations about law's narrowness of vision, Richardson tackles the subject from all manner of angles to deliver an exceptionally powerful punch. It is one of those books which I am sure many of us will wish we had written, and it will quite rightly be admired for its ability to hop from one domain to another without losing sight of the main aim, which is to sharpen law's sensitivity to timescales other than its own. The opening chapter, for example, introduces various works of engineering and art to the discussion – such as the Chronophage, a clock unlike any other, designed without hands, digital numbers or regular pendulum movement to remind viewers of the ineluctable yet strangely elusive passing of time.³⁵ Studies in psychology and neuroscience are used to show how, although ordinarily our perception of time roughly corresponds with standard temporal units (seconds, minutes, hours etc), 'perceived time' can differ from 'measured time' owing to the effects of emotion, personality and other individual traits.³⁶ Later in the book, archaeological and human evolution research is relied upon to illustrate that, while civilisations have always had to contend with natural disaster, in the past 50 years humans have altered ecosystems more rapidly and extensively than in any comparable period of history.³⁷ Taken together, these accounts create a compelling picture of time's complexity, unevenness and growing scarcity in matters of environmental protection. 'Having unleashed new temporalities of change in nature', Richardson warns, 'we imperil our own well-being and that of

³³ Richardson (n 27) 40.

³⁴ See eg Kathryn Yusoff, 'Geologic Life: Prehistory, Climate, Futures in the Anthropocene' (2013) 31 *Environment and Planning D: Society and Space* 779; and Alf Hornborg, 'The Political Ecology of the Technocene: Uncovering Ecologically Unequal Exchange in the World-System' in Clive Hamilton, François Gemenne and Christophe Bonneuil (eds) *The Anthropocene and the Global Environmental Crisis: Rethinking Modernity in a New Epoch* (Routledge 2015) ch 5.

³⁵ Richardson (n 27) 19.

³⁶ *ibid* eg 24-25.

³⁷ *ibid* 150-151.

the rest of nature'.³⁸ We are living on borrowed time – or, as Zygmunt Bauman puts it, the future has been 'mortgaged'.³⁹

Despite this, Richardson still finds reason for hope. Law *can* become more open to different disciplinary or methodological approaches by taking lessons from outside its traditional limits. Different cultural practices also offer valuable insights into how to learn from and correct past environmental mistakes. Richardson highlights law's potential to take more seriously the experiences of indigenous communities that have led the way in ecological restoration on ancestral territory. 'Indigenous knowledge', he says, 'is not simply a relic of primeval hunter-gatherer societies, but continues to evolve and contribute to contemporary resource management'.⁴⁰ At several points in the book, Richardson returns to this theme, arguing for a greater diversity of voices and experiences to be brought to otherwise detached discourses of environmental law. Grassroots initiatives and citizen science (eg tracking marine plastic litter, bird counts and butterfly counts) are also given as examples of 'a superb participatory tool to help communities tell nature's time'.⁴¹ The examples are drawn from several different jurisdictions, principally Australia, Canada, New Zealand, the UK and the US, although the book occasionally forays into examples elsewhere, such as other EU Member States, India, South Africa and Southeast Asia. The book is breathtaking in geographical and conceptual scope, and moves deftly between different (temporal and spatial) scales and systems, even if at times this is at the expense of analytical depth. Its thesis is big and bold, and it does not purport to work at a fine-grained level of detail and description. Given the book's impressive jurisdictional and intellectual span, it is perhaps unfair to expect it to spend a considerable time engaging with specific forms of legal doctrine and argumentation, which may differ greatly according to place and circumstance and risk a loss of coherence. It provides instead what Annelise Riles might call 'humanistically oriented legal scholarship',⁴² concerning itself less with legal instrumentalism and more with law's embodiment of norms, political compromise and social meanings. This enables its key ideas to travel and translate into a whole host of contexts, and will attract a wider readership than books on environmental law usually receive.

Richardson pursues three main themes which deserve closer attention and which ought to arouse spirited debate in the academic community. Somewhat counterintuitively but nevertheless very persuasively, he argues that in order to improve environmental futures we must focus on environmental pasts. First, he says,

³⁸ *ibid* 350.

³⁹ Bauman (n 16) Foreword. Note, Bauman argues that one of the prime concerns of modernity in its 'liquid' (as opposed to 'solid') phase is ensuring that the future is not mortgaged but rather kept contingent and alterable.

⁴⁰ Richardson (n 27) 254.

⁴¹ *ibid* 365.

⁴² Annelise Riles, 'A New Agenda for the Cultural Study of Law: Taking on the Technicalities' (2005) 53 *Buffalo LR* 973, 976.

this requires a rethink of the tradition in environmental law of preserving the status quo through techniques such as grandfathering (which exempts existing sources of pollution from new, invariably tighter, regulatory standards⁴³) and licensing (often used to permit polluting activities without establishing appropriate historical baselines for monitoring cumulative environmental loss, and without reviewing the suitability of the licence conditions after they have been imposed⁴⁴). Secondly, it requires a commitment to ecological restoration. ‘Recovering nature’, Richardson argues, ‘must begin with overcoming ignorance about environmental history’.⁴⁵ Past environmental harms have ‘left a wretched legacy that limits the scope for sustaining what remains’,⁴⁶ and yet modern environmental law is said to focus almost exclusively on managing new environmental threats – it is so caught up in the present that it neglects ecological temporalities of change. Thomas Hylland Eriksen refers to this kind of stasis as the ‘tyranny of the moment’.⁴⁷ Thirdly, Richardson calls for a return to a slower pace of life and law. Slowness, he says, can serve as a powerful antidote to the restlessness and breakneck speed of social development. Environmental law stands to gain a great deal from incorporating ‘an explicit ethos of slowness’,⁴⁸ allowing it to resist mounting pressures of ceaseless progress, faster decisions and immediate results. This jars with the prevalent discourse of the ‘law lag’,⁴⁹ which famously depicts law as a site of conceptual and procedural stagnation and lacking impetus for change. For Richardson, elements of environmental law are in fact *too* quick to move to the rhythm of economic and technological progress. The idea that environmental law sometimes enjoys too close an alliance with the market imperative is not new.⁵⁰ Similarly, Richardson is not alone in advocating a less hasty, more contemplative approach to the making and administration of legal rules.⁵¹ Still, the book’s novelty lies in its integration into legal scholarship of a burgeoning area of popular culture. If cities, architecture, tourism, fashion, medicine and food can be slow,⁵² then why not law?

⁴³ Richardson (n 27) 154-163.

⁴⁴ *ibid* 71-77 and 163-172.

⁴⁵ *Ibid* 198.

⁴⁶ *Ibid*.

⁴⁷ Thomas Hylland Eriksen, *Tyranny of the Moment: Fast and Slow Time in an Information Age* (Pluto 2001).

⁴⁸ Richardson (n 27) 309.

⁴⁹ Often attributed to *Mount Isa Mines Ltd v Pusey* (1970) 125 Commonwealth Law Reports 383, 395 (Windeyer J) where law is described as ‘marching with medicine but in the rear and limping a little’. For critique, see Lyria Bennett Moses, ‘Recurring Dilemmas: The Law’s Race to Keep Up with Technological Change’ (2007) 2 University of Illinois J of Law, Technology and Policy 239; and Sheila Jasanoff, ‘Making Order: Law and Science in Action’, in Edward J. Hackett and others (eds) *The Handbook of Science and Technology Studies* (3rd edition, MIT Press 2008) ch 30, esp 768-769.

⁵⁰ See eg Elen Stokes, ‘Regulatory Domain and Regulatory Dexterity: A Critique of the UK’s Governance of “Fracking”’ (2016) 79 MLR 961; and Maria Lee, ‘The Legal Institutionalization of Public Participation in the EU Governance of Technology’ in Roger Brownsword, Eloise Scotford and Karen Yeung (eds) *The Oxford Handbook of Law, Regulation and Technology* (OUP 2017) ch 26.

⁵¹ See eg Bart van Klink, ‘Law at the Right Time: A Plea for Slow Law in Hasty Times’ in Luigi Corrias and Lyana Francot (eds) *Temporal Boundaries of Law and Politics: Time Out of Joint* (Routledge 2018) ch 2.

⁵² See generally Carl Honoré, *In Praise of Slow: How a Worldwide Movement is Challenging the Cult of Speed* (Orion Books 2005).

The chapter on slow law (titled '*Rallentare*', the Italian verb 'to slow down') presents some of the most inventive and thought-provoking claims in the book, but it is also the least satisfying in terms of substantiation and concrete solutions. Possibilities of a more measured style of environmental governance are subsequently presented under the headings 'listening to nature'⁵³ (examples of which include broadening the knowledge base for action, establishing national environmental commissions and developing integrative regulatory oversight) and 'adjudicating for nature'⁵⁴ (which requires more transparent, equitable deliberation and negotiation in environmental issues through, for instance, community groups and stakeholder partnerships). The examples are vivid and illuminating, though fundamentally they contain little that will surprise readers knowledgeable about reflexive governance and adaptive management. In fairness, Richardson makes clear that his primary purpose here 'is not to prescribe a specific blueprint for law reform, but to initiate a serious conversation about the major frailty of environmental law worldwide and options for better governance'.⁵⁵ But even conversation starters need enough meat on the bones to fight over.

At a general level, the chapter's arguments are eminently reasonable. For instance, it contends that practices of environmental law need to cultivate habits of patience, since '[s]lowness gives more time for due diligence, reflection, and learning, as well as enhancing accountability'.⁵⁶ One forum in which the benefits of slowness can be seen, says Richardson, is public inquiries.⁵⁷ In principle at least, public inquiries are less adversarial and better geared towards openness and stakeholder participation than the typical administrative law regime. 'Compared to courts', he points out, 'public inquiries can allow for greater in-depth research and more generous public consultation such as through open submissions and community hearings, thereby fostering more informed and socially acceptable decisions'.⁵⁸ The Mackenzie Valley Pipeline Inquiry (established by the Canadian Government to review a proposal to build an Arctic gas pipeline) is given as an example of success and a model worthy of emulation. The Inquiry is celebrated for having heard and considered the personal stories and testimonies of almost 1,000 members of communities along the proposed route. Richardson commends the Inquiry's 'patience and deliberation'⁵⁹ and its 'sensitive engagement with the Aboriginal people who would have been most affected'.⁶⁰ No doubt, there are valuable lessons to be learned from this. But it also raises important questions about *how*, *when* and *by whom* success is defined. As it turns out, the Inquiry recommended a moratorium on the pipeline construction. Had

⁵³ Richardson (n 27) 360-368.

⁵⁴ *ibid* 368-382.

⁵⁵ *ibid* 45.

⁵⁶ *ibid* 347.

⁵⁷ *ibid* 309 and 373.

⁵⁸ *ibid* 309-310.

⁵⁹ *ibid* 311.

⁶⁰ *ibid* 310.

the outcome been different, however, it is unclear that the process would still be held up as an exemplary display of 'better quality' environmental decision-making. I suspect that it would, but it is difficult to hypothesise let alone reach firm conclusions without a more solidly grounded explanation of precisely how slow and steady translates into improved policies and practices. Richardson is careful to note that slowness will not always produce environmentally beneficial results,⁶¹ and that there will of course be times when speedy decisions are needed.⁶² This issue of timing – of when to act fast, when to assume a slower pace and when to intervene in the first place – is highly significant for the effective administration of environmental law, and Richardson touches upon something here that could be fleshed out more fully.

A related point is that the 'slowness movement' – whether in law or more broadly – might represent an alternative notion of progress, but its benefits may be just as unevenly distributed (in time and space) as incumbent approaches to environmental protection. In much the same way that globalisation and the time-space compression are not the all-encompassing and homogenising processes they are often claimed to be,⁶³ impressing on society the need to 'go slow' could also result in fragmentation, generating different experiences of time and the future. This is astutely observed by Sarah Sharma, who shows that temporal inequities can intensify when there are structural demands for slowness.⁶⁴ It must be recognised, notes Sharma, that 'one's management of time has the potential to further diminish the time of others'.⁶⁵ Thinking about this from a legal perspective, it is important to acknowledge that slower, more deliberative decision-making processes will produce winners and losers. Someone will have to bear the cost of more protracted and painstaking proceedings. Of course, this is not in itself a reason for sticking to existing conventions, since any process, no matter how it is configured, creates some imbalance between those engaged in it. The point is that these differences and hierarchies must be brought to the fore so that they can be properly addressed.

That law is even capable of slowing down the signature processes of capitalism (and their associated problems of resource depletion and environmental degradation) is not something to be taken for granted – it may be too much to expect of law that it shapes modern capitalist economies without also being shaped by them. Instigating a slow movement in the public sphere, in state promulgated law, will not on its own be enough to contain the expansive economic dynamism more commonly attributed to the private sphere. Nor will it necessarily cause law to eliminate all traces of the capitalist temporalities it seeks to resist, if – like culture, politics, the state and so on – law is tied, however loosely, to the circulation of capital.⁶⁶ This begs questions

⁶¹ *ibid* 304 eg where Richardson uses the *Exxon Valdez* case to demonstrate how slowness can frustrate attempts to achieve environmental justice.

⁶² *ibid* 349.

⁶³ For critique, see Doreen Massey, *For Space* (Sage 2005) esp ch 1.

⁶⁴ Sarah Sharma, *In the Meantime: Temporality and Cultural Politics* (Duke University Press 2014).

⁶⁵ *ibid* 149.

⁶⁶ I am grateful to the referee for these points.

about the extent to which law has agency (if that is not too misleading a term for it) to bring about truly transformational change. Still, so long as it encourages some re-evaluation of current ways of doing things, an ethos of slowness may hold promise if not clear answers.

Of the numerous options for institutional and legal change discussed in the book, those grouped under the heading ‘living with nature’⁶⁷ are among the most encouraging. Some of the options are tried and tested, or well-known at least, and include conservation covenants and other land-based duties of environmental care,⁶⁸ environmental certification schemes,⁶⁹ and positive environmental disclosure obligations on businesses.⁷⁰ One simple yet potentially very effective idea is to ensure that processes of environmental impact assessment and land use planning become ‘more retrospective’,⁷¹ so that their starting assumptions and predictions are routinely revisited and the initial conditions of authorisation adjusted for new threats and changing circumstances. For Richardson, this is about offsetting ‘front-loaded’⁷² regulatory systems that focus so much on the approval stage of a project that ‘resource-constrained regulators often give much less attention to what ensues, such as follow-up monitoring and even ensuring compliance with licence conditions’.⁷³ It means building into the process a series of strategically timed intervals, so that decision-makers are required to pause and if need be rewind. Some regimes already use such mechanisms for evaluating decisions and measures after the fact. Quite how well they work in certain contexts is questionable.⁷⁴ Richardson reminds us, however, that environmental law is best understood as a work in progress rather than a finished item, requiring no end of perseverance, resourcefulness and creativity, sometimes against seemingly insurmountable odds. If ever there were a time for taking the long view, it is now.

Finding Futures in Environmental Law: A Call to Action

It is impossible in the space available to do justice to the breadth and complexity of the ideas in Richardson’s book. My aim has not been to offer anything like a comprehensive account of every aspect of the work. Instead, I have made selective use of Richardson’s work as a prompt for further comment and reflection. Overall, the book represents legal scholarship at its most exciting – unafraid to think outside the box, to cross disciplinary boundaries, and to learn from other fields to develop a more sophisticated understanding of its own. In this regard, Richardson’s illustrations

⁶⁷ Richardson (n 27) 382-399.

⁶⁸ *ibid* 386-388.

⁶⁹ *ibid* 388-389.

⁷⁰ *ibid* 394.

⁷¹ *ibid* 384.

⁷² *ibid*.

⁷³ *ibid* 163-164.

⁷⁴ See eg Stijn Smismans, ‘Policy Evaluation in the EU: The Challenges of Linking *Ex Ante* and *Ex Post* Appraisal’ (2015) 6 *European J of Risk Regulation* 6.

of the interplay of the past and future in law, and of the need to go back before going forwards, are particularly fresh, unsettling and productive – for it is at this critical juncture that issues of environmental law and temporality call out for further exploration. Richardson’s arguments provide just the springboard for analysing dimensions less well known to legal scholars. Although the past is grist to any lawyer’s mill, the phenomenon of ‘futures past’ – that is, futures already under way, set in motion but not registered because they have yet to materialise into empirically observable and understandable phenomena⁷⁵ – has been left mostly unexplored. As should be clear by now, however, these futures are everywhere in environmental law, often hidden in deceptively mundane legal practices – such as grandfather clauses and licensing regimes, as well as processes of environmental impact assessment and schemes of remediation which clear the path for some futures while foreclosing others. We just have to look for them.

The technicalities of law are exactly where questions about the future – *which future and why?* – are played out, even though these questions have generally been reserved for theory. Becoming better reconciled with environmental pasts is one way of prising open a space of temporal absence or alterity, in which to consider the futures that could have been but never were. Richardson’s book is a prime example of this approach to analysis. But it is also possible to examine futures with a little less ‘rear vision’,⁷⁶ by paying attention to the ways in which futures are discursively and materially enacted through current and prospective legal arrangements. The time is ripe for giving serious consideration to law’s role, not as an innocent bystander to an unstoppable flow of events, but as unavoidably implicated in how the future will unfold. ‘More research is needed’ is probably the most overused statement in academia, but, in this instance, I think it holds true. Just as Luke Bennett and Antonia Layard have enjoined legal scholars to become ‘spatial detectives’,⁷⁷ Richardson’s work – and, to a lesser but hopefully still useful extent, this review article – should be read as a call to action. Environmental law scholars can bring all the necessary expertise, experience and sensibilities to the table. There is room still for us to become professors of foresight.

⁷⁵ Barbara Adam and Chris Groves, *Future Matters: Action, Knowledge, Ethics* (Brill 2007) 36.

⁷⁶ Richardson (n 27) ch 4.

⁷⁷ Luke Bennett and Antonia Layard, ‘Legal Geography: Becoming Spatial Detectives’ (2015) 9 *Geography Compass* 406.