## **BOOK REVIEWS**

International Climate Change Law. By Daniel Bodansky, Jutta Brunnée and Lavanya Rajamani. Oxford: Oxford University Press, 2017. Pp. xxxix, 400. Index. \$105, £80.00. doi:10.1017/ajil.2017.54

The shadow that looms large over this book is the "Keeling Curve" (first mentioned at p. 97): Charles David Keeling (1925–2005), a geochemist at the Scripps Institution of Oceanography, had begun in 1957 to monitor atmospheric carbon dioxide at a high-altitude base on Mauna Loa in Hawaii. His measurements demonstrated a

steady annual increase in CO<sub>2</sub> levels, and in correlation with historical Russian-Swiss ice core samples from the Antarctic, documented the dramatic rise of contemporary global warming.<sup>2</sup> The Mauna Loa zig-zag graph (showing characteristic seasonal variations) thus became the "central icon of the greenhouse effect."<sup>3</sup>

The three legal scholars who coauthored the present volume have been involved in the evolution of international climate change treaty-making from its very beginnings: Daniel Bodansky (Arizona State University) first interned with the Intergovernmental Negotiating Committee for a Framework Convention on Climate Change in Geneva in the 1990s (under Jean Ripert as chairman and Michael Zammit Cutajar as Executive Secretary) and later attended many of the treaty meetings as observer and consultant to the secretariat; Jutta Brunnée (University of Toronto Faculty of Law) already served as legal adviser to the Canadian delegation at the climate law negotiations twenty years ago; and Lavanya Rajamani (New Delhi Centre for Policy Research) chronicled the twists and turns of the 1992 UN Framework Convention on Climate Change (FCCC), its 1997 Kyoto Protocol, and the 2015 Paris Agreement, in her annual reports for the British International and Comparative Law Quarterly since 2008. It is safe to say that, between the three of them, what they do not know about the subject is probably not worth knowing.

To be sure, the authors do *not* view international climate change law as a self-contained body of law with its own sources, principles, and methods of lawmaking, instead anchoring it "squarely within the field of international environmental law and public international law more broadly" (p. 11). In the burgeoning literature on the topic, others have already boldly proclaimed

<sup>&</sup>lt;sup>1</sup> Charles D. Keeling, The Concentration and Isotopic Abundances of Carbon Dioxide in the Atmosphere, 12 Tellus 200 (1960); Charles D. Keeling, Is Carbon Dioxide from Fossil Fuel Changing Man's Environment?, 114 Proc. Am. Philosophical Soc'y 10 (1970); Daniel C. Harris, Charles David Keeling and the Story of Atmospheric CO<sub>2</sub> Measurements, 82 Analytical Chemistry 7865 (2010).

<sup>&</sup>lt;sup>2</sup> Ulrich Siegenthaler & Hans Oeschger, *Biospheric CO<sub>2</sub> Emissions During the Past 200 Years Reconstructed by Deconvolution of Ice Core Data*, 39B Tellus 140 (1987); Peter H. Sand, Lessons Learned in Global Environmental Governance 3 (1990).

<sup>&</sup>lt;sup>3</sup> Spencer R. Weart, The Discovery of Global Warming 35 (rev. ed. 2008).

climate change law a novel legal discipline,<sup>4</sup> only to be challenged by critics who caution against introducing yet another futile "Law of the Horse." It is perhaps worth recalling that international environmental law itself only ascended to the rank of a recognized discipline of its own in the 1990s; even though some commentators now consider climate change "an issue of such scale and complexity that it defies resolution through the constrained channels of an international environmental treaty."

Undeterred by such dire warnings, the authors have forged ahead to produce a genuine benchmark study: to wit, a timely account of the legal arsenal currently available to face the challenge of global climatic change. After an introductory general part defining the "art and craft" of international lawmaking in this field (principles and treaty techniques), roughly half of the book covers the chronological development and the legal substance of the three key instruments concluded under UN auspices (the Rio

<sup>4</sup> See, e.g., Jacqueline Peel, Climate Change Law: The Emergence of a New Discipline, 32 Melbourne U. L. Rev. 922 (2008); Dan Bondi Ogolla, Foreword, in The Oxford Handbook of International Climate Change Law, at vii (Cinnamon P. Carlarne, Kevin R. Gray & Richard G. Tarasofsky eds., 2016); Daniel A. Farber & Marjan Peeters, The Emergence of Global Climate Law, in Climate Change Law 687 (Daniel A. Farber & Marjan Peeters eds., 2016).

<sup>5</sup> John B. Ruhl & James E. Salzman, *Climate Change Meets the Law of the Horse*, 62 DUKE L.J. 975 (2013). The term (ironically describing an unsystematic compilation of rules) is by Gerhard Casper, as quoted by Frank H. Easterbrook, *Cyberspace and the Law of the Horse*, [1996] U. Chi. Legal F. 207, and originally inspired by Karl N. Llewellyn, *Across Sales on Horseback*, 52 Harv. L. Rev. 725, 737 (1939).

<sup>6</sup> See Oscar Schachter, The Emergence of International Environmental Law, 44 J. Int'l Aff. 457 (1991); Editors of the Harvard Law Review, Developments in the Law: International Environmental Law, 104 HARV. L. REV. 1484 (1991) (editor-in-chief of the review at the time happened to be one Barack Obama).

<sup>7</sup> Cinnamon P. Carlarne, Delinking International Environmental Law and Climate Change, 4 MICH. J. ENVIL & ADMIN. L. 1, 4 (2014); cited by Elizabeth Fisher, Eloise Scotford & Emily Barritt, The Legally Disruptive Nature of Climate Change, 80 MODERN L. REV. 173, 200 (2017).

Conventions,<sup>8</sup> the Kyoto Protocol,<sup>9</sup> and the Paris Climate Agreement<sup>10</sup>). The other half addresses regulatory initiatives beyond that triad (including the work of other global and regional institutions, and related "polycentric" action at national and non-governmental levels); and the intersections with other areas of international law (such as human rights, migration, and world trade). A brief concluding section summarizes the findings of the study, cautiously assessing the "effectiveness" of contemporary international climate change law.

A recurring theme, both in the book's historical narrative and its substantive analysis of the global "architecture" of climate governance,11 is the dialectic contrast between a "top-down" approach (meaning collectively agreed emission targets/caps) and a "bottom-up" approach (meaning nationally determined contributions), applied to the analysis of the post-Rio and post-Kyoto negotiations at successive meetings of the Conference of the Parties from 1995 to 2015 (see the milestones table 4.1, at p. 100). In essence, those diplomatic interim accords "meandered back and forth, from the comparatively vague and in some cases hortatory provisions of the FCCC, to the hard obligations of result in the Kyoto Protocol, to the political agreement reflected in the Copenhagen Accord, to the hard obligations of conduct in the Paris Agreement" (p. 22). The final result is presented as a synthesis or "hybrid" of the two approaches (pp. 23-26,

<sup>&</sup>lt;sup>8</sup> Convention on Biological Diversity, opened for signature June 5, 1992, 1760 UNTS 79; UN Convention to Combat Desertification in Those Countries Experiencing Serious Drought and/or Desertification, Particularly in Africa, Oct. 14, 1994, 1954 UNTS 3; UN Framework Convention on Climate Change (FCCC), May 9, 1992, 1771 UNTS 107.

<sup>&</sup>lt;sup>9</sup> Kyoto Protocol to the FCCC, Dec. 11, 1997, 2303 UNTS 162.

<sup>&</sup>lt;sup>10</sup> Paris Agreement (Dec. 13, 2015), in UN FCCC, Report of the Conference of the Parties on its Twenty-First Session, Addendum, at 21, UN Doc. FCCC/CP/2015/10/Add.1 (Jan. 29, 2016).

<sup>&</sup>lt;sup>11</sup> Term coined by Richard Schmalensee, *Greenhouse Policy Architectures and Institutions, in* Economics and Policy Issues in Climate Change 137 (William D. Nordhaus ed., 1998).

214, 351), laid out in detail in table 7.1 (pp. 251–57), distinguishing "provisions that create obligations" from recommendatory and aspirational provisions.<sup>12</sup>

Whether or not the Paris outcome is a "Goldilocks solution"<sup>13</sup> remains to be seen. Canada, it will be remembered, had already found the Kyoto porridge too hot and quit in 2011 (pp. 201, 204). <sup>14</sup> And the withdrawal of the United States from the Paris Agreement in 2017 (grimly anticipated at p. 361) was not motivated by doubts about the formal legal character of the agreement (which astutely avoided using the word "treaty"), <sup>15</sup> but by the Trump Administration's discovery of the "hard" non-regression rule in Article 4.11, which precludes a ratcheting down of declared national commitments. <sup>16</sup> Yet, for the time being, U.S.

12 Refuting early academic criticism which characterized the Agreement as "essentially a statement of good intentions" (Anne-Marie Slaughter, *The Paris Approach to Global Governance*, PROJECT SYNDICATE (Dec. 28, 2015), *at* https://www.project-syndicate.org/commentary/paris-agreement-model-for-global-governance-by-anne-marie-slaughter-2015-12), and not "even an obligation to comply" (Richard Falk, "Voluntary" International Law and the Paris Agreement (Jan. 16, 2016), available at https://richardfalk.wordpress.com/2016/01/16/voluntary-international-law-and-the-paris-agreement).

<sup>13</sup> Daniel Bodansky, *The Paris Climate Change Agreement: A New Hope?*, 110 AJIL 288, 289 (2016).

<sup>14</sup> By contrast, the current Canadian government ratified and firmly supports the 2015 Paris Agreement.

<sup>15</sup> Pp. 210–12. On the notorious different meaning of "treaties" in U.S. constitutional law as compared to the 1969 Vienna Convention on the Law of Treaties (1513 UNTS 293), see also Lavanya Rajamani, *The Devilish Details: Key Legal Issues in the 2015 Climate Negotiations*, 78 MODERN L. REV. 826 (2015); and Daniel Bodansky, *The Legal Character of the Paris Agreement*, 25 REV. EUR. COMP. & INT'L ENVIL L. 142 (2016).

<sup>16</sup> For an account of the internal White House dispute preceding the withdrawal, see John Schwartz, Debate Over Paris Climate Deal Could Turn on a Single Phrase, N.Y. Times (May 2, 2017); see also Lavanya Rajamani & Jutta Brunnée, The Legality of Downgrading Nationally Determined Contributions Under the Paris Agreement: Lessons from the US Disengagement, 29 J. Envil L. 537 (2017). On the non-regression principle, see generally LA NON-RÉGRESSION EN DROIT DE L'ENVIRONNEMENT (Michel Prieur & Gonzalo Sozzo eds., 2012), and Ramon

participation in the agreement will continue pursuant to Article 28—at least until November 4, 2020<sup>17</sup> (i.e., by sheer coincidence, the day after the next presidential elections), albeit under a peculiar state of "self-declared non-compliance." The situation is remotely comparable to the status of Russia under the 1987 Montreal Protocol on Substances that Deplete the Ozone Layer, 18 between 1995 and 2002. There, after the Russian Federation declared itself unable to comply, inter alia, with Article 4 regarding the export ban for ozone-depleting substances to non-party states, the case was eventually resolved by multilatconsultations through that Implementation Committee. 19

The other theme vexing climate change law-making since the 1990s has been North-South differentiation, under the now-axiomatic principle of "common but differentiated responsibilities and respective capabilities" (CBDR-RC, pp. 26–30, 121–23, 165–69, 219–26, 354)—"perhaps the most divisive overarching issue in the Paris Agreement negotiations" (p. 219). Whereas the Kyoto Protocol had still cemented a virtual "Chinese wall," 20 separating Annex-I (developed) from non-Annex-I (developing) countries in terms of their respective treaty obligations, the Paris Agreement succeeded in extending the geographic scope of common basic commitments to all

Ojeda Mestre, *Del eterno retorno a la no regresión*, 44 ENVIL POL'Y & L. 125 (2014); but see also the caveat by Edith Brown Weiss, *id.* at 138, regarding the potential impact of new scientific evidence.

<sup>17</sup> Lavanya Rajamani, Reflections on the U.S. Withdrawal from the Paris Climate Change Agreement, EJIL TALK! (June 5, 2017).

<sup>18</sup> London Amendment of June 29, 1990, 1598 UNTS 469; accepted by the Russian Federation on Jan. 12, 1992.

19 See Jacob Werksman, Compliance and Transition: Russia's Non-compliance Tests the Ozone Regime, 56 Heidelberg J. Int'l L. 750 (1996); David G. Victor, The Operation and Effectiveness of the Montreal Protocol's Non-compliance Procedure, in The Implementation and Effectiveness of International Environmental Commitments: Theory and Practice 137, 155–64 (David G. Victor, Kal Raustiala & Eugene B. Skolnikoff eds., 1998).

<sup>20</sup> Jorge Viñuales, *The Paris Climate Agreement:* An Initial Examination, Part III, EJIL TALK! (Feb. 8, 2016).

parties, while preserving a range of softening exceptions and incentives for Third World countries. Rather than abandoning the sacrosanct CBDR-RC "binary approach,"21 the Agreement converted it into a new system aptly described here as "bounded self-differentiation" (p. 223) for mitigation measures, further operationalized for purposes of transparency and finance (pp. 225-26).<sup>22</sup> The compromise so reached and narrowly preserved in the dramatic lastminute correction of the controversial "shall/ should" language in Article 4.4 (p. 224)—is to owe much to the Administration's bilateral deals with China and India (pp. 82, 280-81).23

The parts of the book likely to be of greatest interest to a non-specialized audience are chapters 8 and 9, on "Climate Governance Beyond the United Nations Climate Regime" and "Intersections Between International Climate Change Law and Other Areas of International Law," respectively. To be precise, the heading of

The Government of India declares its understanding that, as per its national laws; keeping in view its development agenda, particularly the eradication of poverty and provision of basic needs for all its citizens, coupled with its commitment to following the low carbon path to progress, and on the assumption of unencumbered availability of cleaner sources of energy and technologies and financial resources from around the world; and based on a fair and ambitious assessment of global commitment to combating climate change, it is ratifying the Paris Agreement.

United Nations Multilateral Treaty Database, Status of Treaties, ch. XXVII (Environment), 7.d (Paris Agreement), at https://treaties.un.org/pages/View Details.aspx?src=TREATY&mtdsg\_no=XXVII-7d&chapter=27&clang=\_en#EndDec.

chapter 8 may be a misnomer after all; for the triad of the UN climate change treaties is but one component (if a central one) of what has more accurately been described as a "regime complex,"24 comprising a highly fragmented multitude of autonomous or quasi-autonomous regulatory instruments within the UN system. These include the 1985/1987 ozone layer treaties (greenhouse gases "controlled by the Montreal Protocol" are expressly exempted from Article 4 of the FCCC and Article 2 of the Kyoto Protocol, p. 273); the air and sea transport conventions under the auspices of the International Civil Aviation Organization (ICAO) and the International Maritime Organization (IMO), to whom the control of greenhouse gases from aviation and marine bunker fuels is referred by Article 2.2 of the Kyoto Protocol;<sup>25</sup> and several multilateral agreements operating under the auspices of the United Nations Economic Commission for Europe (UN/ECE; e.g., for "dual impact" emissions of air pollutants such as climate-harmful black carbon, now covered by the amended Gothenburg Protocol to the 1979 Convention on Long-Range Transboundary Air Pollution;<sup>26</sup> and for motor vehicle emissions of carbon dioxide and other exhaust gases, under global technical regulations adopted since 1998 by the Geneva-

<sup>&</sup>lt;sup>21</sup> Bodansky, The Paris Climate Change Agreement,

supra note 13, at 317.

22 See also Christina Voigt & Felipe Ferreira, "Dynamic Differentiation": The Principles of CBDR-RC, Progression and Highest Possible Ambition in the Paris Agreement, 5 Transnational Envtl L. 285 (2016).

<sup>&</sup>lt;sup>23</sup> See, e.g., India's declaration on ratification of the Paris Agreement (Oct. 2, 2016, following the "Second US-India Strategic and Commercial Dialogue" in New Delhi, Aug. 30-31, 2016):

<sup>&</sup>lt;sup>24</sup> Robert O. Keohane & David G. Victor, *The Regime* Complex for Climate Change, 9 Perspectives on Politics (2011). See also HARRO VAN ASSELT, THE Fragmentation of Global Climate Governance: Consequences and Management of Regime Interactions 3 (2014).

<sup>&</sup>lt;sup>25</sup> P. 266. On recent decisions regarding greenhouse gas regulations for aircraft and ships, by the International Civil Aviation Organization (ICAO) Assembly and the International Maritime Organization (IMO) Marine Environment Protection Committee, see Tanveer Ahmad, Environmental Law: Emissions, in THE ROUTLEDGE HANDBOOK OF PUBLIC AVIATION LAW 197, 243 (Paul S. Dempsey & Ram S. Jakhu eds., 2017); and Nathalie Clarenc Bicudo, L'OMI et l'air impur du large: la vie juridique des règles relatives à la pollution atmosphérique des navires, 121 Revue Générale de Droit International Public 361 (2017).

<sup>&</sup>lt;sup>26</sup> P. 276: Protocol to Abate Acidification, Eutrophication and Ground-Level Ozone, Dec. 1, 1999, 2319 UNTS 81, amendments of May 4, 2012 (not yet in force); see Stefan Reis, et al., From Acid Rain to Climate Change, 338 Science 1153 (2012).

based World Forum for Harmonization of Vehicle Regulations).<sup>27</sup>

There have been several efforts to cope with this normative fragmentation, by way of overarching codifications such as the draft "Legal Principles relating to Climate Change" adopted by the International Law Association (ILA) at its Washington Conference in April 2014,<sup>28</sup> repeatedly referenced in this book (pp. 39, 41-44, 52, 54);<sup>29</sup> and the "Oslo Principles on Global Climate Change Obligations" drafted by another non-governmental expert group in March 2015.30 By contrast, the seemingly more general legal guidelines for "Protection of the Atmosphere" being prepared by the UN International Law Commission (ILC) since 2013<sup>31</sup> operate under a severely restrictive mandate, deliberately excluding (1) "questions such as: liability of States and their nationals, the polluter-pays principle, the precautionary principle, common but differentiated responsibilities, and the transfer of funds and technology to developing countries, including intellectual property rights"; and (2) "specific substances, such as black carbon, tropospheric ozone, and other dual-impact

<sup>27</sup> Agreement Concerning the Establishing of Global Technical Regulations for Wheeled Vehicles, Equipment and Parts Which Can Be Fitted and/or Be Used on Wheeled Vehicles, June 25, 1998, 2119 UNTS 129; e.g., uniform emission test procedures, UN Doc. ECE/TRANS/WP.29/2017/95 (April 10, 2017). The Geneva standards (also accepted by Australia, Canada, China, India, Japan, South Korea, Malaysia, New Zealand, Russia, Tunisia, South Africa, and the United States) were preceded by a series of UN/ECE regional technical regulations under the Agreement Concerning the Adoption of Uniform Conditions for Approval and Reciprocal Recognition of Approval for Motor Vehicles Equipment and Parts, Mar. 20, 1958, rev. 1995, 335 UNTS 211.

<sup>28</sup> Third Report of the ILA Committee on Legal Principles Relating to Climate Change (Shinya Murase ed., 2014).

<sup>29</sup> See pp. 39, 41–43, 52, 54. All three authors of this book were members of the ILA Committee between 2008 and 2014, with Lavanya Rajamani as Rapporteur.

<sup>30</sup> Oslo Principles on Global Climate Change Obligations (Jaap Spiel ed., 2015).

<sup>31</sup> Text of the nine draft guidelines provisionally adopted, with commentaries, in Int'l Law Comm'n, Rep. to the General Assembly on the Work of Its 69th Session, ch. VI, UN Doc. A/72/10 (2017).

substances, which are the subject of negotiations among States."<sup>32</sup> Given that virtually all of those "no-go" topics are indeed among the very key concerns of international climate change law, the future relevance of the ILC draft guidelines in this context is likely to be marginal at best.

Chapter 9 opens with an analysis of the intersection between climate change and human rights, though noting with some disappointment that the only explicit reference to states' human rights obligations appears in the preamble of the Paris Agreement (p. 312). Yet, there are a number of areas where human rights concerns are bound to influence the practical application of the climate change treaties indirectly, not least in what the authors refer to as "judicial governance" (pp. 283-90). In fact, the growing volume of lawsuits in national civil and administrative courts, challenging governmental action (or inaction) to combat and mitigate the harmful consequences of climate change,<sup>33</sup> typically involves claims alleging the violation of individual or group rights to a healthy environment, often invoking global and regional human rights treaties (p. 287). By the same token, the humanitarian aspects of climateinduced migration and displacement have at least begun to be recognized as part of the "adaptation" component of the continuing negotiations on funding gaps,<sup>34</sup> both under the FCCC (pp. 325-27) and under the auspices of the UN Global Platform for Disaster Risk Reduction.<sup>35</sup>

<sup>34</sup> United Nations Environment Programme, The Adaptation Finance Gap Report 3, 44 (2016).

<sup>&</sup>lt;sup>32</sup> Int'l Law Comm'n, Rep. to the General Assembly on the Work of Its 65th Session, 115, para. 168, UN Doc. A/68/10 (2013) ("understanding" on the scope of the project); reprinted in the session report by Sean D. Murphy, 108 AJIL 41, 56 (2014). See Peter H. Sand, The Discourse on "Protection of the Atmosphere" in the International Law Commission, 26 Rev. Eur. Comp. & Int'l Envil L. 201 (2017).

<sup>&</sup>lt;sup>33</sup> Michael Burger & Justin Gundlach, The Status of Climate Change Litigation: A Global Review (2017).

<sup>&</sup>lt;sup>35</sup> United Nations Office for Disaster Risk Reduction, Sendai Framework for Disaster Risk Reduction 2015–2030, para. 47(d), UN Doc. A/CONF.224/CRP.1 (2015), available at http://www.unisdr.org/files/43291\_sendaiframeworkfordrren.pdf (calling for the incorporation of disaster risk reduction measures into development assistance

The most thought-provoking part of the book, from this reviewer's perspective, is the discussion of the relationship between the new climate change law and international trade law, raising "perhaps the most controversial and difficult interface issues" (p. 327). As soon as states (and the European Union) begin to implement the Paris Agreement in earnest, they will inevitably invoke and apply domestic legal instruments that are bound to have significant transnational effects—from carbon taxes to emission trading schemes, higher environmental standards, and subsidies (e.g., for renewable vs. fossil-fuel energy sources). In order not to penalize their own industries for complying with onerous new climate protection requirements (vis-à-vis potential free-riding foreign competitors), they are likely to resort to trade-related "response measures" such as import restrictions and border tax adjustments, any one of which might conflict with GATT/WTO free-trade rules and "disciplines." While Article 3.5 of the FCCC (followed by Article 2.3 of the Kyoto Protocol) neither condones nor forbids such unilateral measures, that ambivalent "handsoff approach" (p. 348) may no longer suffice in the event of trade disputes under the Paris Agreement, with its heightened reliance on "nationally determined" action. Rather than falling back on the Agreement's own dispute settlement rules, 36 a state challenging such measures would instead tend to turn to the World Trade Organization's Dispute Settlement Body, which has dealt with climate-related issues before,<sup>37</sup> and which is likely to "play

significant roles in shaping bottom-up climate action" (p. 349) in the future. In the turbulent legal climate ahead, the Bodansky-Brunnée-Rajamani treatise will provide a reliable manual for servicing the architectural edifice now in place.

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programs, including those for "adaptation to climate change"); see also The Routledge Handbook of Disaster Risk Reduction Including Climate Change Adaptation (Ilan Kelman, Jessica Mercer & Jean-Christophe Gaillard eds., 2017).

<sup>36</sup> Article 24 of the Paris Agreement incorporates by reference the traditional procedural options of FCCC Article 14 (which have never been used in practice).

<sup>37</sup> See pp. 343–47, on the cases concerning Canada's and India's renewable energy "feed-in tariffs"; Reports of the WTO Appellate Body: WT/DS412/AB/R (2013), WT/DS426/AB/R (2013), and WT/DS456/AB/R (2016).