the value of procedural environmental rights. It also addresses four arenas of environmental law that have (or could have) a constitutional dimension: a standalone right of nature; sustainable development as an organizing legal or constitutional principle; the public trust doctrine (the idea that governments hold nature and natural resources on trust for the community); and, finally, climate change. May and Daly point out that very few countries have expressly recognized climate change in their constitutions. Given the seriousness of climate change as the overriding environmental challenge of this century, analysis of what role, if any, global environmental constitutionalism could play in maintaining a living space for humanity is a vitally important research agenda.

This is an exceptional book on the under-examined topic of constitutional engagement with environmental issues. The authors' major achievements in *Global Environmental Constitutionalism* are in providing a balanced and detailed evaluation of the advantages and disadvantages of environmental constitutionalism, and their extensive research on constitutional practice across dozens of jurisdictions. This book will not be the last word on environmental constitutionalism, as it raises as many important questions as it answers; but it is an authoritative guide to a fascinating and important area of environmental law that has, to date, escaped the kind of comprehensive and penetrating analysis that May and Daly provide.

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Environmental Protection and Sustainable Development from Rio to Rio+20 (Protection de l'environnement et développement durable de Rio à Rio+20), edited by Malgosia Fitzmaurice, Sandrine Maljean-Dubois & Stefania Negri Brill Nijhoff, 2014, 425 pp, €153 hb, ISBN 9789004282902

Malgosia Fitzmaurice, Sandrine Maljean-Dubois and Stefania Negri have pulled together a good edited collection that makes an original contribution to our understanding of how far the concept of sustainable development (and its three 'pillars' of environmental protection; human, social, and cultural dimensions; and economic aspects) has travelled since it was popularized in the Brundtland Commission's 1987 report, *Our Common Future*. ¹⁰ The concept of sustainable development underpinned the basis of the Rio Declaration and Agenda 21 adopted by the 1992 United Nations Conference on Environment and Development

World Commission on Environment and Development, Our Common Future, UN Doc. A/42/427 (4 Aug. 1987), Annex, p. 54, defining sustainable development as 'development which meets the needs of current generations without compromising the ability of future generations to meet their own needs'.

(UNCED).¹¹ It remains today, in the aftermath of the 2012 UN Conference on Sustainable Development (Rio+20), a pole star around which international environmental law and policy is organized and, even more importantly, the prism through which environmental concerns feed into economic, social, and political decision making at all levels. Yet, sustainable development as an organizing principle is not without its problems or detractors. This book provides an important critical look at difficult and outstanding issues tied to sustainable development from a number of fresh angles and different perspectives.

The book contains a collection of 20 articles gathered from a series of conferences organized by the University of Salerno (Italy) in May and June 2012, on the topic 'Towards Rio+20: The Challenges of International Environmental Law and Sustainable Development'. The contributors are internationally recognized legal experts across the panoply of fields important to the study of sustainable development – such as international environmental law, trade law, the law of the sea, the law relating to human rights, energy, and health, and European Union (EU) law. They hold positions in various international, regional and domestic organizations. Their expertise is vividly reflected in the work.

As the book's bilingual title indicates, individual contributions are in English and French. Unfortunately, they do not appear simultaneously translated and fluency in both languages is required to obtain the full benefit of the contributions. The book offers an in-depth treatment of the influential political and legal instruments produced in 1992 at UNCED and considers their suasion and importance in the developments leading to Rio+20 and in the post-Rio+20 trajectory. It does this by providing an analysis of a host of challenging issues facing the global environment, which include climate change, migration, global management of the environment after Rio+20, global health, food security, waste management, mining, the marine ecosystem, trade, and biotechnology.

The book is divided into four parts. It features a Preface by Malgosia Fitzmaurice and an Introduction by Sandrine Maljean-Dubois and Stefania Negri. The Introduction brings out the important parts of the final outcome document of Rio+20, *The Future We Want*. ¹² It considers developments such as the establishment of a new universal intergovernmental high-level political forum to replace the Rio Commission on Sustainable Development and the establishment of an inclusive and transparent intergovernmental process on sustainable development goals (SDGs). It also considers the shortcomings of *The Future We Want*, including its failure to include an agreement between states on binding common targets.

Turning then to the core materials, Part 1 is on the theme of 'The Legal and Institutional Framework' of environmental protection and sustainable development. The chapter by Angela Di Stasi, 'The Normative Force of the Outcome Document the

Rio de Janeiro (Brazil), 3–14 June 1992, UN Doc. A/CONF.151/26, available at: http://www.un.org/documents/ga/conf151/aconf15126-1annex1.htm.

UN Conference on Sustainable Development, The Future We Want, UN Doc. A/66/L.56, 24 July 2012, para. 1, available at: http://daccess-dds-ny.un.org/doc/UNDOC/LTD/N12/436/88/PDF/N1243688. pdf?OpenElement.

Future We Want', explores the ramifications of the Rio+20 Resolution (66/288) and the 'Future We Want' Annex in the context of 20 years of preceding activity and its normative impact. Di Stasi reviews the contents of the Rio+20 Resolution and concludes that, despite the soft nature of its commitments, all states are bound under the general duty of international cooperation to implement these commitments. Also in Part 1 is Carina Costa De Oliveira's contribution on 'Sustainable Development Partnerships as a Bridge between International Commitments and their National Implementation'. De Oliveira stresses the need for national implementation to be achieved through the 'mechanism of sustainable development partnerships' (SDP), which involve a voluntary cooperative framework between actors from the public, the business sector and civil society. De Oliveira is, however, less clear on how effective SDPs can be achieved.

Part 2 of the book takes up the 'Environmental Protection Dimension of Sustainable Development'. It concentrates on a select number of examples in order to highlight the ways in which environmental considerations have been balanced with economic and social priorities since the original Rio UNCED Conference. It opens with a contribution by José Manuel Sobrino Heredia, 'The Heritage Dimension of the Climate System and its Protection for the Benefit of Mankind'. Heredia examines the legacy of the climate system as a feature passed on from generation to generation. His aim is to explore how present generations can pass on a climate system to future generations that is as conducive to meeting the latter's needs as it was for past generations. He explores how a heritage law focus could assist in its management and transmission to future generations in a condition no worse than that in which it was received. The contribution by Panos Merkouris to Part 2 takes up the relationship between 'Climate Change and Natural Disasters'. Merkouris explores how climate change and natural disasters are interrelated. He takes the reader though the overlapping legal developments of climate- and disaster-related instruments. He explores, for instance, the response of the Intergovernmental Panel on Climate Change (IPCC) to the disaster aspect in its various Synthesis Reports. He also considers the difficult issues related to the invocation of state responsibility in the context of natural disasters driven by climate change.

Antonio Leandro's chapter, 'Sustainable Development as Guidelines for Oceans and Seas Governance', emphasizes the need for a cross-disciplinary approach in balancing and ordering all maritime interests. He provides a knowledgeable analysis of the new aspects of Rio+20 that relate to the protection of oceans and seas. Part 2 also explores how the management of waste fits into sustainable development. Teresa Russo, in her chapter on the 'Sound Management of Waste and Environmental Protection from Stockholm to Rio+20', highlights the failure of Rio+20 to provide a compliance mechanism to control transboundary waste. With this significant gap in mind, Russo considers if and how the law and policy of states might pick up the slack.

Part 3 of the book tackles the economic, social, and cultural facets of sustainable development. Pia Acconci looks at 'Food Security within the Framework of International Assistance for Development'. Her analysis reveals a fragmented international food security legal framework consisting of incomplete, competing and sometimes conflicting norms. Rio+20 did little to address the problems created by

this deficient framework and Acconci concludes that, until that happens, the problems are likely to continue. She suggests that a focus on regional human rights instruments is appropriate, but fails to acknowledge the important role that international trade law, international development law and the law of security have to play.

In a further Part 3 chapter on 'Environmental Change and Migration', Rossana Palladino writes about the unsuccessful political and legal debates at Rio+20 surrounding the plight and protection of environmental migrants. She explores various solutions that have been put forward, ranging from the strengthening of existing legal protection to the creation of new norms on displacement reflected, for instance, in the Nansen Principles and Initiative, ¹³ but concludes that the challenge will remain until states drive the solution. In a chapter exploring health, 'Sustainable Development and Global Health: Positioning Health in the Post-2015 Development Agenda', Stefania Negri illustrates the development of a triangular relationship between health, the environment, and sustainable development from Rio 1992 to Rio+20. Her analysis is centred on the health-related debates surrounding a post-2015 development agenda, including the relevant Millennium Development Goals (MDGs) and health-related SDGs, and considers how the new global health agenda might be implemented.

The topics of energy, biodiversity, mining, and international trade are covered in Part 4 of the book on the economic dimensions of sustainable development. In his contribution on 'Energy and Policy Objectives in the Context of Rio+20', Francesco Buonomenna provides an in-depth analysis of energy sector developments in international law, including those linked to the energy-environment relationship, sustainable energy and, less intuitively, poverty eradication. He points out that the Rio+20 Declaration energy objectives ignore significant research that has gone into the development sector regulations, but also notes that the need for converging actions on energy is not strictly dependent on international regulation. Elizabeth Hodson de Jaramillo and Ingrid Schuler look at 'Challenges of Sustainable Development and Productive Use of Biodiversity: The Knowledge Based Bio-Economy Approach'. They argue that paying attention to traditional uses of biodiversity in making biotechnical advances can assist the international community's efforts to 'make wise use of our natural resources in an environmental, social, economic, sustainable and conscious way' (p. 333).

Leonardus Gerber and Francesco Sindico then turn the reader's attention to 'Mining and Sustainable Development'. They examine the contemporary issues tied to sustainable mining, including effective post-mining closure regulation and ways and means to enhance transparency and accountability. It may be that the final outcome document of Rio+20 contains only two paragraphs on mining and minerals, but Gerber and Sindico demonstrate how international law has increasingly played a role in ensuring that the requirements of environmental protection and social justice are in the foreground when the economic attractions of mining activity might otherwise blind decision makers.

In 'Nature, Culture and Sustainable Development in International Trade Law', Valentina Vadi questions whether 'international trade law ... is open to encapsulating cultural and natural concerns in its *modus operandi*?' (p. 355). Vadi provides a good recapitulation of

¹³ The Nansen Initiative, available at: https://www.nanseninitiative.org/secretariat.

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the World Trade Organization (WTO) jurisprudence in the area and the improved accommodation between trade and environment over time. She further investigates the role of international trade law in linking indigenous culture and sustainable development, and emphasizes the relevance of the *EC–Seal Products* dispute¹⁴ in determining that economic activities must be mindful of their implications for the culture of indigenous peoples and conservation of natural resources. However, she also notes the significant limitations of the WTO dispute settlement mechanism as a forum for adjudicating the infringement of indigenous people's cultural rights associated with nature.

For those toiling in the field of sustainable development with the aim of passing on to future generations a clean and wholesome environment, this book will provide compelling arguments over and insights into both progress and problems. The recent adoption of the Final Draft of the Outcome Document for the Post-2015 Development Agenda for adoption in late September 2015, *Transforming Our World: The 2030 Agenda for Sustainable Development*, has revived our interest in the concept of sustainable development and its continuing evolution. It is fervently hoped that the goals announced in this document will be able to meet the strong preambular commitment of the world's political leaders: 'We are determined to protect the planet from degradation, including through sustainable consumption and production, sustainably managing its natural resources and taking urgent action on climate change, so that it can support the needs of the present and future generations'. ¹⁶

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Philosophy and the Precautionary Principle: Science, Evidence, and Environmental Policy, by Daniel Steel

Cambridge University Press, 2014, 266 pp, £60 hb, ISBN 9781107078161

Science and the Precautionary Principle in International Courts and Tribunals: Expert Evidence, Burden of Proof and Finality, by Caroline E. Foster Cambridge University Press, 2011/13, £84.99 hb (2011), £25.99 pb (2013), ISBN 9780521513265 hb, 9781107669031 pb

The precautionary principle has taken hold in a variety of transnational environmental law contexts as a fundamental way to approach decision making in

Appellate Body Report, European Communities – Measures Prohibiting the Importation and Marketing of Seal Products, WT/DS400/AB/R, WT/DS401/AB/R, 22 May 2014, adopted 18 June 2014.

Available at: http://www.un.org/pga/wp-content/uploads/sites/3/2015/08/120815_outcome-document-of-Summit-for-adoption-of-the-post-2015-development-agenda.pdf.

¹⁶ Ibid., p. 1.