FRAGMENTATION REVISITED IN THE CONTEXT OF GLOBAL ENVIRONMENTAL LAW AND GOVERNANCE

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This article argues that because of environmental law's usual focus on the fragmentation of international environmental law and international environmental governance, we have been missing out on an opportunity to consider fragmentation as a much broader globalised phenomenon in the context of global environmental regulation. The result is that we have been seeing half-truths about fragmentation which have desensitised us to appreciating the disaggregated characteristics of global environmental law and governance as the most recent contemporary forms of environmental regulation. The hypothesis is that international environmental law and governance is only a part of the global regulatory response and that the fragmentation of environmental law and governance must be viewed through the global lens in order to allow a more nuanced and ultimately more realistic reappraisal of fragmentation and its consequences for global environmental regulation. The article suggests that once the parochial blindfold of 'the international' is removed, it would be possible to explore the new world of 'the global,' where the consequences of fragmentation in the context of global environmental regulation are arguably less severe than many fear.

I INTRODUCTION

The issue of fragmentation of law is a popular scholarly enterprise among international lawyers.[1] Fragmentation remains a contentious issue because, among other reasons, it is a threat to what many lawyers perceive to be effective law and it leads to conflicts which some believe may hamper regulatory effectiveness.[2] Effective law is considered to be law that is based on strong control emanating from a homogenous, unified and hierarchical order or authority. Where this is not the case lawyers are not at ease, since a

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[1] One of the classic texts is the International Law Commission enquiry into fragmentation. See Martti Koskenniemi *Fragmentation of International Law: Difficulties Arising from the Diversification and Expansion of International Law. Report of the Study Group of the International Law Commission* (2007).

[2] In the environmental context, some believe that 'every unnecessary diversification of the law detracts from the primary aim of the most effective global environmental protection possible'. Ulrich Beyerlin & Thilo Marauhn *Law Making and Law-Enforcement in International Environmental Law after the 1992 Rio Conference* (1997) 19.

fragmented dispensation works counter-intuitively to the expectations they would have had under a unified/homogenous/single source of normative validity.[3] Martineau[4] suggests in this respect that

> 'to invoke fragmentation is to evoke an image of chaos, explosion. As performatives, all such references raise a particular sensibility — that is, a fear of anarchy, a feeling of lack of direction, a worry over the end of an international order.'

Some even see it as a logical consequence and attempt to 'advance beyond the political present that in one way or another has been revealed unsatisfactorily'.[5] On balance, fragmentation is thus considered a 'perilous division'[6] and a threat to the consistency, stability, credibility, reliability, and ultimately the authority of a legal order.[7] Fragmentation is also controversial because it affords a powerful rhetoric to contest the many on-going projects of law development and law reform, where international lawyers 'seize the language of fragmentation to support or challenge particular political projects'.[8] It is therefore a rhetoric that is also often invoked when dealing with socio/legal/political developments related to specialised law and governance regimes.

As a lex specialis, (international) environmental law is one of the youngest legal disciplines today. It is a classic example of an on-going project of law and governance reform and normative development, both because it is far from mature and because it must adapt to the continuously changing and increasingly complex human/environment interface that it must mediate (otherwise understood as the relationship between humans and the environment). Considering the remarkably rapid growth, diversification and pluralisation of environmental law over the past four decades, fragmentation has thus predictably found its way into the environmental-law discourse.[9] The many publications in this respect are testimony to its prevalence as an issue that continues to influence how environmental lawyers think about the normative arrangements that seek to mediate the human/environment interface.[10] Notably, while most scholars narrowly focus on the fragmentation of the *international* environmental law and governance regime,[11] less

[3] Martti Koskenniemi & Päivi Leino 'Fragmentation of international law? Postmodern anxieties' (2002) 15 *LJIL* 553 at 556–7.

[4] Anne-Charlotte Martineau 'The rhetoric of fragmentation: Fear and faith in international law' (2009) 22 *LJIL* 1 at 4–5.

[5] Koskenniemi & Leino op cit note 3 at 578.

[6] Martineau op cit note 4 at 2.

[7] Koskenniemi & Leino op cit note 3 at 560.

[8] Martineau op cit note 4 at 3–4.

[9] Daniel Bodansky *The Art and Craft of International Environmental Law* (2010) 35.

[10] See, for example, the many sources cited throughout this article.

[11] 'Regime' in the context of this article is used to include the collection of institutional responses to social issues which society perceives as giving rise to social externalities (such as infringements of human rights, obstacles to trade, and environmental pollution) and which would thus require regulatory intervention through the cre-

attention has been paid to how fragmentation manifests in the broader *global* environmental law and governance context.[12] In the former international context, commentators usually tend to focus on treaty proliferation, treaty congestion and the institutional fragmentation of organisational structures. On balance, they are critical about the effects of fragmentation in the environmental regulatory domain.[13] In other words, the focus has predominantly been on the manifestation of fragmentation in terms of the 'traditional' body of international environmental law — consisting of treaties, governance processes, and treaty bodies — and not on the broader global environmental law and governance regime. This is a regime that not only includes all the elements of 'traditional' international environmental law, but also a variety of non-state actors and 'softer' law like non-legal arrangements that exist at various levels ranging from the local, through the regional, to the international.

This article suggests that while the traditional focus on 'the international' has served its purpose well over the years, it has arguably become obsolete. Enquiries about fragmentation in a globalised world cannot continue to be restricted to 'the international', because such a parochial approach blinds us to the realities of contemporary supra-national environmental regulation and the true, disaggregated nature of global environmental law and governance. Today we live in a globalised world where the institutions of law and governance are becoming increasingly fluid across national, regional, and international divides. Law and governance in general, and environmental law and governance in particular, are steadily becoming transnational or global and it is increasingly difficult to draw absolute disciplinary, geographical and spatial distinctions in the global context. As Koskenniemi & Leino[14] state, 'the new global configuration builds on informal relationships between

ation of common co-operative platforms for collective action. It is an all-encompassing phenomenon which is much broader than environmental treaty regimes (although it includes these, for example, the climate change or biodiversity regimes). The way this article considers and uses 'regimes' is therefore closer to Krasner's definition of regimes as being 'principles, norms, rules, and decision-making procedures around which actor expectations converge in a given issue-area'. Stephen D Krasner 'Structural causes and regime consequences: Regimes as intervening variables' in Stephen D Krasner (ed) *International Regimes* (1983) 2.

[12] One of the few examples is William Boyd 'Climate change, fragmentation, and the challenges of global environmental law: Elements of a post-Copenhagen assemblage' (2010) 32 *Univ Pennsylvania Journal of International Law* 457.

[13] While it is not the main focus of this article, it is worth noting that fragmentation is often investigated also from a domestic and regional perspective. The burgeoning literature on fragmentation of national and regional (especially European) environmental law is, however, too extensive to list here. See, among others, Michael G Faure 'The harmonization, codification and integration of environmental law: A search for definitions' (2000) June *EELR* 174; Elli Louka *Conflicting Integration: The Environmental Law of the European Union* (2004); L J Kotzé 'Improving unsustainable environmental governance in South Africa: The case for holistic governance' (2006) Special Environmental Law Ed *PER/PELJ* 1.

[14] Koskenniemi & Leino op cit note 3 at 557.

different types of units and actors . . . the "international" and "national" may no longer be usefully separated even as distinct realms of politics and government'. In this context, the rise of global environmental governance, both as a normative programme and as an analytical perspective,[15] and the steady growth of global environmental law as an emerging specialised legal discipline, analytical perspective and distinct body of rules, provide ample opportunity to revisit the phenomenon of fragmentation by extending the debate beyond an orthodox international focus.

This article therefore attempts to indicate that because of the usual focus on the fragmentation of international environmental law and international environmental governance we have arguably been missing out on an opportunity to consider fragmentation as a much broader globalised phenomenon in the context of global environmental regulation. In doing so, we have not only been seeing half truths about fragmentation, but we have also not been fully appreciating the disaggregated characteristics of global environmental law and governance as the most recent contemporary forms of environmental regulation. The hypothesis is that international environmental law and governance is only a part of the global regulatory response and that the fragmentation of environmental law and governance must be viewed through the global lens in order to allow a more nuanced and ultimately more realistic reappraisal of fragmentation and its consequences for global environmental regulation. Once the parochial blindfold of 'the international' is removed, it is possible to explore the new world of 'the global', where the consequences of fragmentation in the context of global environmental regulation are arguably less severe than many fear.

Viewing fragmentation through the global lens could conceivably be criticised as no more than a new rehearsal of an old problem, or as being superficial, or as a pointless academic exercise. There are, however, also clear benefits to this global approach. Because it relies on globalisation rhetoric and global governance discourse, the global approach allows one to consider the expansion and disaggregation of environmental law and governance in the global context where international environmental law and the states responsible for this body of law are only some of many other elements, actors and considerations which contribute to disaggregated/fragmented global environmental law and governance. It therefore enables a more complete analysis

[15] As an analytical perspective, global environmental governance is used as a lens through which to consider global realities. It seeks to understand fluctuating global environmental change and, like its parent concept global governance, it 'entails an analysis of shifting ontology, global order change, and the material and ideational forces that helped shape that change'. Eric K Leonard *The Onset of Global Governance: International Relations Theory and the International Criminal Court* (2005) 164. As a normative programme, global environmental governance relates to the collection of rules, principles, standards, practices, actors, regimes, organisations, networks, and their governance processes and mechanisms that are used to govern global environmental matters of common concern. See further on this distinction Klaus Dingwerth & Philipp Pattberg 'Was ist global governance?' (2006) 34 *Leviathan* 377.

that shifts the exclusive focus on international environmental law and governance to a more holistic consideration of global realities and recent trends in environmental law and governance. The global perspective also allows for an expanded and thus more inclusive perspective on the various types of normative arrangements that are now collectively termed 'global environmental law' (as opposed to 'international environmental law', which is significantly more restrictive, as I shall explain below). Furthermore, it allows us to 'extend our concept of law to encompass norms lying beyond the legal sources of Nation-state and international law, and, at the same time, to reformulate our concept of the [legal] regime'.[16] At the same time, it is also a more realistic and contemporary approach because it differs from the view that global environmental issues, such as climate change, can only be solved through a top-down, supra-national regime aimed at managing the Earth system; an approach which international environmental law has been following since its birth decades ago.[17] Instead it begins 'with the facts of globalization, legal pluralism, and fragmentation'[18] within the context of the broader Earth system and the Earth system governance paradigm. Dunoff[19] argues that 'disaggregating [environmental] governance into its component parts can generate more nuanced approaches to debates over appropriate levels of governance'. In the same way a disaggregated perspective could create opportunities to see global environmental governance as a regulatory intervention that does not occur at any one specific level, but rather as one that involves many tasks, activities, objectives, elements and actors. Another benefit is that a global focus allows considerable methodological freedom.

[16] Andreas Fischer-Lescano & Gunther Teubner 'Regime-collisions: The vain search for legal unity in the fragmentation of global law' (2004) 25 *Michigan J of International Law* 999 at 1010. Such a re-conception of law, should of course, go hand in hand with expanding views on what we regard as 'norms'. In the regulatory and legal domain, norms should be seen as all-encompassing societal constructs that set standards to guide or influence behaviour, including that of people, of states and of the institutions through which people and states act. Norms also create expectations about future conduct and they provide a certain standard for behavioural conduct. In the global environmental regulatory milieu, norms could include, among others, treaties, decisions of treaty bodies, decisions of international organisations, conference resolutions and declarations, claims by states, judicial and arbitral decisions, business codes of conduct, private/non-state rules, and the work of legal scholars and experts. See further Daniel Bodansky 'Prologue to a theory of non-treaty norms' in Mahnoush H Arsanjani, Jacob Katz Cogan, Robert D Sloane & Siegfried Wiessner (eds) *Looking into the Future: Essays on International Law in Honour of W Michael Reisman* (2011) 121; Bodansky op cit note 9 at 94–6. Clearly, norms need not be formal state-based arrangements in the form of treaties, for example, to achieve this regulatory outcome. They could also include non-state law-like rules such as codes of conduct or tools for self-regulation.

[17] Boyd op cit note 12 at 458.

[18] Ibid at 457–8.

[19] Jeffrey L Dunoff 'Levels of environmental governance' in Daniel Bodansky, Jutta Brunnée & Ellen Hey (eds) *The Oxford Handbook of International Environmental Law* (2007) 103.

With reference to his own global approach to the study of comparative constitutional law, Venter[20] suggests that the expanded global lens releases one 'from the grip of parochial predilection.' Similarly, examining fragmentation from a global environmental law and governance perspective would be tantamount to breaking from the grip of parochial predilection that has for too long confined the discourse of environmental law.

The discussion is structured as follows: part II explains the concept of fragmentation and it elaborates the orthodox Westphalian approach to fragmentation considered through the lens of international environmental law and its counterpart, international environmental governance. The latter serves as a precursor to the discussion in Part III, which argues and justifies the need for a global approach. Part IV describes the phenomena of global environmental law and governance with specific reference to their global characteristics. Building on the latter description, Part V investigates the extent to which global environmental law and governance could be considered fragmented. Part VI concludes the article with a reappraisal of fragmentation in the domain of global environmental law and governance.

II FRAGMENTATION: THE WAY WE WERE

What does fragmentation mean in the context of law and governance? For the purpose of international law, fragmentation refers either to the process of dividing international law into a variety of distinct specialised sub-disciplines or functional regimes of specialisation, such as human-rights law, trade law and environmental law (also referred to as 'kaleidoscopic normative and institutional specialization'[21]); or it denotes the fragmented primitive character or composition of international law that relates to its many actors, norms and processes.[22] In this article I use fragmentation in its broadest sense to cover both these manifestations.

(a) A medley of terms

A variety of descriptive terms is used in the literature to relate to fragmentation. For example, Dupuy[23] uses the term 'expansion', which is associated with an enlargement of the material scope of operation of international law; a multiplication of actors; and the establishment of a multitude of monitoring mechanisms to improve the efficiency of international law, whilst Stephens[24] uses the terms 'compartmentalisation' and 'decentralisation' to describe the creation of quasi-autonomous or specialised branches of international law,

[20] Francois Venter *Global Features of Constitutional Law* (2010) Preface.

[21] Martineau op cit note 4 at 4.

[22] Ibid.

[23] Pierre-Marie Dupuy 'The danger of fragmentation or unification of the international legal system and the International Court of Justice' (1999) 31 *New York Univ Journal of International Law & Policy* 793–5.

[24] Tim Stephens 'Multiple international courts and the "Fragmentation" of international environmental law' (2006) 25 *Australian Yearbook of International Law* 228–9.

and Burke-White[25] writes of 'pluralisation', 'diversification' and 'hybridization'. The latter terms have a distinctly positive connotation to the extent that they are seen to lead to 'healthy pluralism'.[26] Lindroos[27] opts for the term 'decentralisation', and uses 'open-endedness', 'flexibility' and 'contextual responsiveness' when referring to the nature of the disaggregated international law regime. Hafner[28] uses the more obvious term of 'disintegration', and Van Damme[29] prefers 'diversification' to 'fragmentation', where one of the results of diversification is the 'widening' and 'deepening' of international law. These terms are used mostly in the traditional Westphalian setting to describe a law and governance setting that is not homogenous, centralised, uniform, unitary, consistent, holistic, coherent, whole and/or integrated.

(b) Fragmentation in the environmental context

In the environmental context many scholars consider fragmentation in a similar way from within the strict doctrinal confines of international environmental law. They do so by focusing on issues related to conflict between specialised environment-related law regimes such as the trade regime vis-à-vis the oceans governance regime;[30] conflicts within the environment regime that exist between issue-specific environmental sub-regimes such as biodiversity and climate change; the proliferation of multilateral environmental agreements; the concomitant mushrooming of interstate structures and treaty regimes to govern these 'hard' law instruments; the effects of treaty congestion as a result of the foregoing; conflicts between and within different environmental treaties and regimes; and conflicts between the many adjudication bodies.[31] Commentators also point

[25] William W Burke-White 'International legal pluralism' (2004) 25 *Michigan J of International Law* 963.

[26] Martineau op cit note 4 at 2.

[27] Anja Lindroos 'Adressing norm conflicts in a fragmented legal system: The doctrine of lex specialis' (2005) 74 *Nordic J of International Law* 27 at 29.

[28] Gerhard Hafner 'Pros and cons ensuing from fragmentation of international law' (2004) 25 *Michigan J of International Law* 849 at 856.

[29] Isabelle van Damme '"Systemic integration' of international law: Views from the ILC, the WTO CTE, and UNESCO' in John McManus (ed) *Fragmentation: Diversification and Expansion of International Law* (2006) 61–2.

[30] Lindroos op cit note 27 at 31 states: 'Each such system or regime . . . functions in its own normative environment, with distinct particularities and often on the basis of differing institutional and legal rationales. There is no one goal, logic, or system to govern all possible situations. To some extent, therefore these legal orders appear to exist in a normative jungle, where each system may create solutions entirely opposite to the solutions of another system, and where general international law may be interpreted and applied in different ways.'

[31] See, for example, Rüdiger Wolfrum & Nele Matz *Conflicts in International Environmental Law* (2003); Nele Matz *Wege zur Koordinierung völkerrechtlicher Verträge: Völkervertragrechtliche und institutionelle Ansätze* (2005); Lukitsch Hicks Bethany 'Treaty congestion in international environmental law: The need for greater international coordination' (1999) 32 *Univ Richmond LR* 1643 at 1646; Stephens op cit note 24 at 228–9; Sreenivasa Pemmaraju Rao 'Multiple international judicial forums: A reflec-

to the fragmentation of secondary or procedural rules as a result of the fragmentation of primary normative rules.[32] Procedural rules are those that are based on the primary substantive rules encapsulated in multilateral environmental agreements. They have to do with ways to ensure observance and enforcement of the primary rules of international environmental law and include, for example, reporting and monitoring obligations, and dispute settlement arrangements.[33] Some indicate that there has been a significant increase in secondary procedural rules to strengthen the primary rules, and the remarkable growth of global administrative law and the law of international organisations/institutions are examples of the growing importance of procedural aspects of international (environmental) regulation.[34]

In tandem with the fragmentation of primary and secondary rules, institutional fragmentation arises as administrative arrangements proliferate exponentially with a view to creating, enforcing, interpreting and adjudicating the myriad substantive and procedural rules.[35] For example, the proliferation of multilateral environmental agreements leads to the creation of more and more institutions to administer and enforce these treaties, with a secretariat established for each agreement and, often, a multitude of bodies such as scientific committees, standing committees and compliance committees that are subsidiary to the Conference/Meeting of the Parties (usually under what are called treaty regimes.[36] Biermann[37] indicates that

tion of the growing strength of international law or its fragmentation?' (2004) 25 *Michigan J of International Law* 929 at 934.

[32] Benedict Kingsbury 'Global environmental governance as administration: Implications for international law' in Bodansky et al (eds) op cit note 19 at 63–83.

[33] These rules are often found in what is commonly referred to as treaty regimes. The climate governance regime, for example, contains primary substantive rules in the form of the United Nations Framework Convention on Climate Change and the Kyoto Protocol, as well as a range of procedural arrangements overseen by the Treaty Secretariat in Bonn, Germany.

[34] Armin von Bogdandy, Rüdiger Wolfrum, Jochen von Bernstorff, Philipp Dann & Matthias Goldmann (eds) *The Exercise of Public Authority by International Institutions: Advancing International Institutional Law* (2009); Carol Harlow 'Global administrative law: The quest for principles and values' (2006) 1 *EJIL* 187; Benedict Kingsbury & Lorenzo Casini 'Global administrative law dimensions of international organizational law' (2009) 6 *IOLR* 319. Inevitably, however, some see this as a negative consequence of fragmentation since more procedural mechanisms are formulated to generally support and strengthen the substantive objectives of the growing body of international environmental law. Hafner op cit note 28 at 857.

[35] Thomas Gehring 'Treaty-making and treaty evolution' in Bodansky et al (eds) op cit note 19 at 479–83.

[36] See further David M Driesen 'Thirty years of international environmental law: A retrospective and plea for reinvigoration' (2003) 30 *Syracuse J of International Law & Commerce* 353 at 356.

[37] Frank Biermann 'The rationale for a World Environment Organization' in Frank Biermann & Steffen Bauer (eds) *A World Environment Organization: Solution or Threat for Effective International Environmental Governance?* (2005) 120.

> '[s]ince 1972, when UNEP [the United Nations Environment Programme] was set up, the increase in international environmental regimes has led to . . . considerable fragmentation of the entire system. Norms and standards in each area of environmental governance are created by distinct legislative bodies — the conferences of the parties to various conventions — with little respect for repercussions and links with other fields. While the decentralized negotiation of rules and standards in separate functional bodies may be defensible, this is less so regarding the organisational fragmentation of the various convention secretariats, which have evolved into quite independent bureaucracies with strong centrifugal tendencies.'

Although there are notable contrary views,[38] the frequent calls for a more integrated international institutional approach, possibly in the form of a world environment organisation, is testimony to the concerns about the fragmentation of the institutional architecture of supra-national environmental regulation.[39]

(c) General concerns about fragmentation

With few exceptions,[40] environmental lawyers perceive fragmentation to be undesirable because it 'could lead to an inconsistency of rules, duplication of work, organisational frictions and confront the parties with an unsatisfactory administrative jungle'.[41] According to this view, fragmentation causes ineffi-

[38] Gehring op cit note 35 at 475, for example, suggests: '[A]lthough the lack of an overarching institution is frequently deplored and has led to demands for the establishment of a World Environment Organization, institutional fragmentation arguably reflects a strength, rather than a weakness, of international environmental governance. There may simply be no real need for a single comprehensive organization because many environmental problems are best tackled separately from others. It is difficult to see how lumping together several separately institutionalized treaty systems could significantly increase the opportunities for cooperation.' See also Adil Najam 'Neither necessary, nor sufficient: Why organizational tinkering will not improve environmental governance' in Biermann & Bauer (eds) op cit note 37 at 235.

[39] World leaders resolved during the Rio+20 World Summit to 'strengthen the institutional framework for sustainable development' which will, among other things 'enhance coherence, reduce fragmentation and overlap and increase effectiveness, efficiency and transparency, while reinforcing coordination and cooperation' (United Nations General Assembly 'A/RES/66/288 "The Future We Want" (Sept 2012)' para 76, available at *http://daccess-dds-ny.un.org/doc/UNDOC/GEN/N11/476/10/PDF/N1147610.pdf?Open Element*, accessed on 6 December 2012). See also more generally, Biermann & Bauer (eds) op cit note 37.

[40] For example, some argue that fragmentation in terms of institutional proliferation may lead to healthy competition between governance institutions and as such may increase efficiency and build a comprehensive body of legal precedents to be used in future by other institutions, thereby enriching the law of precedent and promoting generally accepted governance standards and best practices. Joost Pauwelyn 'Bridging fragmentation and unity: International law as a universe of interconnected islands' (2004) 25 *Michigan J of International Law* 903 at 904.

[41] Christine Godt 'The need for and the unavailability of international 'positive integration' in chemicals control' in Gerd Winter (ed) *Risk Assessment and Risk Management of Toxic Chemicals in the European Community: Experiences and Reform* (2000) 247.

ciencies because of duplication, overlap, and administrative bottlenecks. Already scarce financial, technical and administrative resources may be wasted and may negatively impact on the effectiveness of the overall regulatory effort. Ultimately, compliance with international environmental law may be hindered and the broader rationale and objectives of the international governance regime are less likely to be realised. Wolfrum & Matz[42] put it as follows:

> 'The doubling of efforts can diminish the effectiveness of international environmental law because scarce financial, administrative or technical resources may be wasted... . The effectiveness of international environmental agreements can be significantly curtailed if conflicts between agreements lead to uncertainty concerning their interpretation and, consequently, their implementation and overall application... . Generally, both the doubling of efforts and conflicts between environmental agreements require a systematic approach to harmonization and coordination in order to provide for greater coherence and, accordingly, enhanced efficiency.'

It is also possible that the fragmentary growth of international environmental law and governance could increase the complexity of legal and governance regimes in terms of the creation of environmental laws, the enforcement, interpretation and adjudication of these laws, and the implementation and co-existence of these laws. This, in turn, may affect what many see as the primary objective of international environmental law and governance, namely the achievement of sustainability.[43] Marshall[44] estimates that

> 'of the approximately 302 multilateral environmental agreements negotiated since 1972, none effectively address the widespread problem of failed sustainable development. Various organisations and arms of the United Nations (other than UNEP) oversee most of the multilateral environmental agreements, creating a piecemeal approach to global environmental issues. This fractured method of serving the global environment in actuality fails to protect the environment.'[45]

[42] Wolfrum & Matz op cit note 31 at 2–3. For a more comprehensive supplement to the foregoing, also see generally Matz op cit note 31.

[43] Carl Folke et al 'Reconnecting to the Biosphere' (2011) 40 *Ambio* 719 at 720 state that 'international institutions are becoming increasingly complex and fragmented through the evolution of a suite of public, private and hybrid forms of transnational collaborations . . . presenting new governance challenges for global sustainability'.

[44] Dena Marshall 'An organization for the world environment: Three models and analysis' (2002) 15 *Georgetown International Environmental LR* 79 at 80–1.

[45] Some estimate this number to be closer to 900 agreements. See Andreas Rechkemmer *International Environmental Governance: Issues, Achievements and Perspectives* (2006) 17. Whatever the exact number is, the quantity of multilateral environmental agreements is rapidly expanding because of an increasingly conscious reactive and proactive response by the international community to more effectively deal with environmental challenges by way of environmental agreements. See, inter alia, Joel B Eisen 'From Stockholm to Kyoto and back to the United States: International environmental law's effect on domestic law' (1999) 32 *Univ of Richmond LR* 1435 at 1447,

It is also generally believed that the burgeoning, detailed and highly technical international environmental law and governance regimes could lead to conflicts.[46] The possibility of such conflicts arising is problematic, as Hafner[47] explains:

> '[M]ultiple sets of international regulations [presumably stemming from treaties and protocols] may apply to a given situation. The diversity of applicable regulations necessitates complex arguments about which regulation to apply, and may give rise to more conflicts than were solved by the creation of each individual regime.'

Others also argue that fragmentation does not address environmental problems per se. It merely causes environmental problems to shift from one environmental sector to another. For example, while the oceans governance regime and the climate regime address two distinct issues (use of the oceans and global warming respectively) there is little connection between the two. Supposedly, a utopian-like integrated regime would have been better able to address issues of global warming and the global oceans simultaneously. It is believed that

> 'only an integrated and holistic approach can avoid both the shifting of different kinds of damage from one environmental medium to another and the conflict of the respective approaches to regulation. The need for better integration, to avoid the shifting of environmental damage and conflicts between instruments, concerns all levels of law-making.'[48]

In sum, fragmentation as a phenomenon in the context of environmental regulation does not have much going for it. It is mostly a pejorative term and a derided phenomenon that causes considerable discomfort among environmental lawyers.

III WHY A GLOBAL PERSPECTIVE?

The foregoing discussion suggests that the orthodox approach to fragmentation in the supra-national environmental regulatory context mostly focuses on the interplay between the environment regime and other specialised regimes such as trade and human rights; possible conflicts between environmental sub-regimes; the multitude of conflicting and overlapping primary and secondary rules of international environmental law; and institutional proliferation as a result of this normative fragmentation. While this approach

and Edith Brown Weiss 'Understanding compliance with international environmental agreements: The baker's dozen myth' (1999) 32 *Univ of Richmond LR* 1555 at 1555–6.

[46] In addition to treaty conflicts, the proliferation of treaties also leads to 'pathologies of negotiation fatigue'; strategic disadvantages to developing countries which do not have the requisite expertise and resources to keep up with the complex processes of treaty-making; and ultimately, because of the need for ever-speedier processes, less than comprehensive treaties with little attention to implementation. Najam op cit note 38 at 249.

[47] Hafner op cit note 28 at 856.

[48] Wolfrum & Matz op cit note 31 at 5.

is useful to the extent that it describes one particular aspect of environmental regulation, (i e the international), its orthodox focus on international environmental law and the traditional institutions of international environmental governance has arguably become redundant for various reasons.

(a) Westphalian obsolescence

Notably, international environmental law and its concomitant state-based governance architecture are considered crucial parts of the Westphalian mode of governance. The Westphalian concept of international environmental governance has chiefly to do with state actors and the United Nations and its machinery (especially UNEP); it involves intergovernmental organisations through which states act at the supra-national level; and its principal normative sources are derived from multilateral environmental agreements, a multitude of environmental treaty regimes, and to a lesser extent soft law arrangements and customary international law. The deep entrenchment of the Westphalian characteristics in the international approach to environmental regulation is evident in high-level United Nations strategic policies which, as recently as 2005, called for

> 'more efficient environmental activities in the United Nations system, with enhanced coordination, improved policy advice and guidance, strengthened scientific knowledge, assessment and cooperation, better treaty compliance, while respecting the legal autonomy of the treaties, and better integration of environmental activities in the broader sustainable development framework at the operational level . . . [a] more coherent institutional framework to address this need, including a more integrated structure, building on existing institutions and internationally agreed instruments, as well as the treaty bodies and the specialized agencies.'[49]

Even in 2012 following the Rio+20 Summit, while some pertinent environmental issues have changed or shifted in priority (for example, there is a greater emphasis on the need for poverty alleviation), states and the United Nations, through the appropriate treaty apparatus, are still perceived by the world as continuing to play the central role in global environmental regulation, despite the proliferation of globalised forces that work to 'go beyond the state', as I shall explain below.[50]

At the most general level, such an approach has become obsolete because it considers environmental regulation mainly through the lens of the hierarchi-

[49] United Nations General Assembly 'A/RES/60/1 "2005 World Summit Outcome" (Oct 2005) para 169, available at *http://daccess-dds-ny.un.org/doc/UNDOC/GEN/N05/487/60/PDF/N0548760.pdf?OpenElement*, accessed on 6 December 2012. See also Governing Council of the United Nations Environment Programme (UNEP) 'UNEP/GCSS. IX/1 Ninth Special Session of the Governing Council/Global Ministerial Environment Forum "International Environmental Governance: Report of the Executive Director" (Nov 2005)', available at *http://hqweb.unep.org/GC/GCSS-IX/DOCUMENTS/K0584382-GCSS-IX-3.pdf*, accessed on 6 December 2012.

[50] United Nations General Assembly op cit note 39 para 54, specifically Part IV.

cal, top-down, Westphalian legal order, which is based on absolute 'sovereign, independent, territorially defined states, each striving to maintain political independence and territorial integrity'.[51] It is a parochial approach that has become redundant in a globalised world where the emergence of global governance and the global character of highly complex environmental problems are proving that, for them to be effective at all, no global environmental law and governance regimes can conceivably continue to focus exclusively on the state and hard-treaty law; assume in good faith that all states comply with all international obligations; maintain the strict divide between international and domestic legal orders and between state (public) and non-state (private) law; and support the existence of a top-down hierarchy of norms and governance. Moreover, it is a view that 'leads to a preference for more hard law and more government at increasingly higher levels',[52] which serves only to entrench the increasingly redundant Westphalian mode of governance in the environmental domain. In the words of Fischer-Lescano & Teubner,[53] what would instead be required is to

> 'give up the idea that a legal system in its strict sense exists only at the level of the Nation-state. Instead, one must proceed from the assumption that law has also, and in line with the logic of functional differentiation, established itself globally as a unitary social system. However, the unity of global law is no longer structure-based, as in the case of the Nation-state, within institutionally secured normative consistency; but is rather process-based, deriving simply from the modes of connection between legal operations, which transfer binding legality between even highly heterogeneous legal orders.'

Notably globalisation, in so far as it describes the 'new' unstructured 'governance without government' setting that is increasingly 'moving beyond the state', is often regarded as the direct opposite of the Westphalian model of governance and law.[54] Another reason (a justification, even) therefore to discard the top-down, strictly hierarchical Westphalian model of law and governance is because of the realities of globalisation.

(b) Globalisation

The effects of globalisation on our traditional socio-legal and other systems of order have been, and continue to be, immense. Globalisation is challenging

[51] Brown Weiss op cit note 45 at 1557. Boyd op cit note 12 at 494 confirms that a top-down hierarchical (mostly Westphalian) approach is also unnecessarily endemic to (international) environmental law. He attributes this to the fact that humans do not understand the nature and extent of environmental problems and thus we are unable properly to respond to these problems: '[T]he standard narrative of environmental law — that ever larger problems require moving to higher levels of governance — contains within it a certain teleology that derives in large part from our ways of understanding environmental problems, our assumptions about scale, and . . . an uncritical acceptance of the conventional theory of collective action.'

[52] Boyd ibid at 496.

[53] Fischer-Lescano & Teubner op cit note 16 at 1007-8.

[54] See generally James N Rosenau & Ernst-Otto Czempiel (eds) *Governance without Government: Order and Change in World Politics* (1992), and the discussion below.

age-old doctrines with respect to the state, law and governance, visions of global order and anarchy, and familiar ways to co-exist sustainably. It has been suggested that

> 'globalization produces a serious challenge to conventional premises: the axiomatic notion of the nation-state as the cornerstone of the territorial sovereignty of the almost 200 states of the world as it developed over centuries, is rapidly losing definition; the state's perceived dominance as provider of the framework within which law is made, administered, adjudicated and enforced is increasingly being challenged; the potential for integration of legal norms across conventional national and international jurisdictions, is growing exponentially.'[55]

In addition, globalisation is questioning the continued prevalence of geographic territorial dictates as the predominant considerations in the design and focus of supra-national governance, and it 'appears indeed characterized by a shift from territorial borders to functional boundaries'.[56] The world, the current social reality, and our perceptions of these are evidently changing and lawyers, especially, require 'a fresh vocabulary, and expanded set of concepts, [and] alternative ways of framing the challenge [to govern and maintain order]'.[57]

In tandem with these paradigmatic changes, one of the effects of globalisation on governance and law is that issues such as fragmentation are also becoming issues of global (environmental) governance. In a contemporary globalised context, global environmental governance involves global environmental law that is created, enforced, interpreted, adjudicated and applied not only at the international level, but also regionally and sub-nationally through a multi-stakeholder enterprise.[58] A global approach to considering fragmentation is therefore directly opposed to the narrow Westphalian perspective. The former favours a disaggregated regulatory view in a globalised world that is not mutually exclusive but which ranges from the local to the international. According to this view, state and non-state actors make use of institutions such as laws and other rules, regimes, organisations and networks to prescribe and proscribe behaviour, constrain activity, and shape expectations with a view to addressing global environmental regulatory issues collectively and to ensure collective action, collective problem solving and the achievement of mutual benefits.[59] In this way, 'a polycentric form of globalisation . . . places legal fragmentation in a different light'.[60]

[55] Venter op cit note 20 at 20.

[56] Andreas L Paulus 'Commentary to Andreas Fischer-Lescano and Gunther Teubner: The legitimacy of international law and the role of the state' (2004) 25 *Michigan J of International Law* 1047 at 1048.

[57] Boyd op cit note 12 at 466.

[58] See the discussion below.

[59] For a more detailed discussion see generally, Louis J Kotzé *Global Environmental Governance: Law and Regulation for the 21st Century* (2012).

[60] Fischer-Lescano & Teubner op cit note 16 at 1004.

(c) Inadequacies of international environmental law

Environmental problems today, or at least the ways we perceive them, differ markedly from our perceptions of environmental problems in the 1970s (which is generally regarded as the time signifying the formal birth of international environmental law). Today environmental problems are truly global, reciprocally interconnected, and increasingly unpredictable. The 2012 *Global Environment Outlook 5* ('GEO5') is the latest global survey to reiterate that the Earth and its systems are moving dangerously close to critical tipping points which, if crossed, will alter life on Earth.[61] GEO5 emphasises that as an aggregated response to anthropogenic impacts, the Earth system has been mostly able to dampen these impacts through its inherent resilience, which buffers disturbances. This, however, is set to change dramatically.[62] While the ecological crisis and its manifestation in biodiversity loss, species extinction and climate change, for example, are important, the Earth is probably set to lose some of its resilience and functional integrity.[63] Also, the Earth and its systems have proven to be much less structured, ordered, regulated and in a steady state than we had hitherto assumed, or blindly believed.[64] It is an unpredictable and complex system with diverse externalities that are shrouded in much uncertainty and this fact renders an informed, consistent and effective legal and governance response increasingly difficult.[65] In this context the pressures on and expectations of our social institutions of law and governance will increase exponentially as they will now have to deal with considerably more uncertainty while attempting to mediate the human-environment interface in a non-linear, unpredictable and unstructured reality. To what extent have international environmental law and governance been successful in responding to these multiple challenges?

Law is a meta-phenomenon that changes as it follows the development of the specific sets of issues to which it applies.[66] In tandem with the continuously changing environmental issue area, (international) environmental law must also change if it is to respond better to the problems that

[61] UNEP 'GEO5-Global Environment Outlook: Environment for the future we want' viii, available at *http://www.unep.org/geo/pdfs/geo5/GEO5_report_full_en.pdf*, accessed on 4 September 2012.

[62] Ibid at 197.

[63] George M Woodwell 'On purpose in science, conservation and government: The functional integrity of the earth is at issue not biodiversity' (2002) 31 *Ambio* 432.

[64] Libby Robin & Will Steffen 'History for the Anthropocene' (2007) 5 *History Compass* 1694 at 1710.

[65] It is now accepted that '[t]he complexity of the Earth System is associated with its countless interacting processes, at many scales and levels of system organization. Importantly, these interactions mean that changes rarely occur in linear and incremental ways. Instead, the dominant behaviour when the various systems on Earth undergo change is for it to happen in a non-linear way, driven by feedbacks that either dampen change (negative feedbacks) or reinforce it (positive feedbacks).' UNEP op cit note 61 at 196.

[66] Paulus op cit note 56 at 1051.

arise in the environmental issue area. But international environmental law has not kept up with the ever-changing area that it is designed to regulate. It has become too narrow or restrictive (and thus inadequate) as a normative set of rules to be solely responsible for influencing the human-environment interface, as a legal sub discipline to address complex global environmental problems, and as an analytical perspective leading to an understanding of complex global environmental problems and regulation. As a normative arrangement in the international environmental law paradigm, with minor exceptions international environmental law has shown limited success in effecting serious global environmental change for the better. This is especially true for multilateral environmental agreements as the primary source of international environmental law. To be sure, 'once all the rage, Multilateral Environmental Agreements now seem to be limping along as hollow reminders of a more optimistic time when coherent global environmental governance seemed within reach'.[67] Apart from reflecting on functional aspects, this ineffectiveness also impacts on the analytical validity and descriptive legitimacy of international environmental law. Importantly for our present purposes, it questions the legitimacy of continuing to focus *only* on international environmental law as a lens through which to view global environmental regulation. International environmental law has come of age. It is an important and autonomous part of the broader international legal order and it remains an indispensable part of the collection of socio-legal institutions that seek to mediate the human-environment interface.[68] But it is only a small part of a much broader, more diversified, and disaggregated global exercise, as the remainder of this article illustrates.

(d) The Anthropocene

The inadequacies of international environmental law and governance and the narrow view of fragmentation in the international context become even more evident when viewed through the lens of the Anthropocene. The word 'Anthropocene' is the signifier of the period in which people have a devastating and overwhelming impact on the Earth and its systems. While it has yet to be formally accepted as describing a new geological epoch following the interglacial Holocene epoch, the term informally denotes a new time in geological history in which the biophysical factors introduced by human beings into the biosphere have begun to change the physical

[67] Boyd op cit note 12 at 464. This is not to suggest, however, that multilateral environmental agreements will cease to form the predominant source of international environmental law or that there will be some other normative arrangements that will replace these agreements: '[A]lso in the future the international treaty will remain the main instrument of law-making, whereby States can make effective use of their sovereign power to regulate, without undue outside interference, their internal and external matters as they see fit.' Christian Tomuschat 'International law as a coherent system: Unity or fragmentation?' in Arsanjani et al (eds) op cit note 16 at 331.

[68] Daniel Bodansky, Jutta Brunnée & Ellen Hey 'International environmental law: Mapping the field' in Bodansky et al (eds) op cit note 19 at 1.

parameters that determine the functioning of all key Earth systems.[69] Importantly for our present purposes, the Anthropocene highlights the interconnectedness of natural Earth processes, or put differently, the interconnected nature of the environment, the reciprocity of its processes, and the many linked cause-and-effect relationships that exist on a global scale.[70] The Anthropocene is concerned with the totality of the entire Earth system and the full gamut of normative and institutional arrangements that exist to mediate the human-environment interface from an Earth systems perspective. Rockström et al[71] define Earth systems as

> 'the integrated biophysical and socioeconomic processes and interactions (cycles) among the atmosphere, hydrosphere, cryosphere, biosphere, geosphere, and anthroposphere (human enterprise) in both spatial — from local to global — and temporal scales, which determine the environmental state of the planet within its current position in the universe. Thus, humans and their activities are fully part of the Earth System, interacting with other components.'

The global challenge of the Anthropocene is geographical, temporal and causal, and a proper response might very well be a holistic one, or for our present purposes, a more holistic effort at global environmental law and governance. The Anthropocene thus shifts the focus from one specific governance level (national, regional or international) to the global, because human impacts and the effect of these impacts have now reached planetary dimensions in geographical terms, in causal terms and in temporal terms. These impacts are not distinctly local, national, regional or international, and the socio-institutional and legal framework that has been designed to deal with them can also not be solely local, national, regional or international. In this way the 'global' of the Anthropocene is not only international, but includes all governance levels simultaneously in a causal and reciprocal setting characterised by recurrent cause-and-effect relationships that affect the entire Earth system. The 'global' of the Anthropocene is therefore a context and a temporal and reciprocal space that includes many geographies, governance levels (from the local to the regional to the international) and governance actors (state and non-state).[72] International environmental law is only part of this disaggregated global collective that must mediate the human-environment interface in the Anthropocene. Likewise, fragmenta-

[69] Paul J Crutzen & Eugene F Stoermer 'The "Anthropocene"' (2000) 41 *Global Change Newsletter* 17.

[70] See, Paul J Crutzen 'The effects of industrial and agricultural practices on atmospheric chemistry and climate during the Anthropocene' (2002) 37 *Journal of Environmental Science & Health* 423 at 423–4; Jan Zalasiewicz, Mark Williams, Will Steffen & Paul Crutzen 'The new world of the Anthropocene' (2010) 44 *Environmental Science & Technology* 2228 at 2228–31; Simon Dalby 'Ecology, security, and change in the Anthropocene' (2007) XIII *Brown Journal of World Affairs* 155.

[71] Johan Rockström et al 'Planetary boundaries: Exploring the safe operating space for humanity' (2009) 14(2) *Ecology and Society* 1 at 23.

[72] Kotzé op cit note 59 at 17–18 and 34–5.

tion manifests not only in terms of the international order of environmental law but, even more starkly, also in the global context of the Anthropocene.

(e) The dangers of reductionism

The realities of globalisation, the Anthropocene, and the Earth system all point to the dangers of being overtly-reductionist when trying to understand the fragmentation of environmental law and governance. In reference to general international law, Fischer-Lescano & Teubner[73] find that

> '[a] characteristic legal reductionism . . . may . . . be observed here; a reductionism which both oversimplifies the manner in which norm conflicts are understood, and which narrows the possible range of their solution. In principle, lawyers register only a confusing variety of autonomous legal fields, self-contained regimes and highly specialized tribunals. By this token, they identify a danger to the unity of international law because the conceptual-doctrinal consistency, the clear hierarchy of norms and the effective judicial hierarchy that was developed within the nation-states, is lacking. Accordingly, they direct themselves to a hierarchical solution to the problem.'

In the same way, the vision of international environmental law and governance is a reductive perspective that (perhaps too) conveniently attempts to consider and address a far more complex set of realities, facts, entities, phenomena, structures, natural and social processes, and multiple stakeholders and their interests through the simpler, much narrower, but ultimately more familiar international framework. The global perspective thus could go a long way to avoiding reductionism in a multifarious globalised world where the chance of finding simple solutions dwindles away to zero in the face of an augmented regulatory complexity.

IV GLOBAL ENVIRONMENTAL LAW AND GOVERNANCE

Much has been written on the topic of what global environmental governance is and what it entails.[74] Scholarship on global environmental law, on the other hand, is less established, and as a nascent body of law it still requires further theoretical analysis and clarification. This part of the article, while not repeating all the extant views on global environmental governance, aims to provide a succinct synopsis of this 'new' global regulatory institution, and offers a general description of global environmental law, which may be considered an integral part of the global environmental governance effort.

[73] Fischer-Lescano & Teubner op cit note 16 at 1002.

[74] Some of these include Afshin Akhtarkhavari *Global Governance of the Environment: Environmental Principles and Change in International Law and Politics* (2010); Ulrich Beyerlin & Thilo Marauhn *International Environmental Law* (2011); Norichika Kanie & Peter M Haas (eds) *Emerging Forces in Environmental Governance* (2004); Bradnee W Chambers & Jessica F Green (eds) *Reforming International Environmental Governance: From Institutional Limits to Innovative Reforms* (2005); David L Levy & Peter J Newell (eds) *The Business of Global Environmental Governance* (2005); Lamont C Hempel *Environmental Governance: The Global Challenge* (1996).

(a) The governance perspective

As a point of departure, it is clear that global environmental governance is part of the more general governance paradigm, the latter being about people steering or piloting activities or behaviour and having the ability to steer and pilot their own and other human activities and behaviour with the purpose of achieving some or other (often common) goal. In other words, governance is about people 'acting more or less deliberately in a fairly durable concert for the attainment of a considered complex of ends',[75] especially in so far as it embodies 'the purposeful generation of influence on the behaviour of actors to collectively improve sub-optimal outcomes'.[76] Where governance is applied in the environmental context, it becomes environmental governance, which aims to provide a regulatory collective and the regulatory means to achieve certain common objectives through changing behaviour (be it the behaviour of states or individuals) with a view to mediating the human-environment interface.

(b) A multi-level, multi-stakeholder enterprise

This article takes a broad view of global environmental governance — it could be described as a normative institutional regulatory intervention and social construct that is normative in character (although it could also be employed as an analytical perspective) and that aims to influence how people interact with the global environment.[77] Global environmental governance entails a disaggregated multi-stakeholder enterprise which is a pluralistic, dynamic, multilevel (occurring at sub-national, national, regional and international levels), multi-actor response and process of change. It *should* pragmatically aim to change human behaviour vis-à-vis the global environment, and idealistically to optimise environmental benefits and use, while at the same time seeking to protect and preserve sufficient environmental capital for the present and future generations (although it is not necessarily successful in achieving this). States and the institutions they act through (especially the United Nations machinery such as UNEP) continue to play the primary role in global environmental governance, and they create numerous rules (mostly through specialised treaty regimes) that seek to change behaviour with respect to the environment.[78] To be sure, 'the State

[75] Herman Finer *Theory and Practice of Modern Government* (1949) 4.

[76] Thomas Gehring *Dynamic International Regimes: Institutions for International Environmental Governance* (1994) 481.

[77] See more generally Kotzé op cit note 59.

[78] States have been, they currently are, and in all likelihood will remain the primary actors in global environmental governance unless some dramatic and unlikely paradigmatic and structural changes occur in the architecture of international politics, law, and the world order. While there have been numerous subtle changes to the role of the state and the extent of its functions, it is highly unlikely that another authoritative entity will replace the state in world affairs. If such an entity does surface, it will have to grapple with and overcome the complexities associated with statehood, territoriality and sovereignty, among others. Nevertheless, it is especially with respect to

remains indispensable not only for regulating parochial local affairs, but also for striving to realize something akin to the common good, both domestically and, jointly with others, internationally'.[79] Importantly though, non-state actors at various levels such as networks, non-governmental organisations, multilateral development banks, epistemic communities and civil society, play an increasingly critical role in global environmental governance.[80] It is now widely acknowledged that complementary to state actors, non-state actors have shaped and continue to influence many aspects of global environmental regulation by contributing to rule-making, rule interpretation, rule adjudication and rule implementation.[81]

(c) Emerging global environmental law

The recent collective term for these global state and non-state rules is transnational or global environmental law. While scholarship on the conceptual field and the legal taxonomy of global environmental law is underdeveloped, some definitions thereof do exist. For example, Wiener[82] sees global environmental law as 'a marriage of international and national environmental law; something old, something new, something borrowed for something blue'. Tseming & Percival[83] define global environmental law as an emergent system which includes

> 'the set of legal principles developed by national, international, and transnational environmental regulatory systems to protect the environment and

its role as the author, addressee and guardian of international (environmental) law that the state will continue to play the predominant role in carving out the contours of global environmental governance. It remains the only actor enjoying full legitimacy as a domestic and supra-national actor, and remains the sole entity to implement and sanction domestic and supra-national environmental rules. Thilo Marauhn 'Changing role of the state' in Daniel Bodansky et al (eds) op cit note 19 at 730; Beyerlin & Marauhn op cit note 74 at 245–8.

[79] Paulus op cit note 56 at 1057.

[80] Non-state actors are all those actors which are not states in the formal sense and which do not act with public (state) authority. These could include a wide array of specific manifestations such as the media, non-governmental organisations, community-based organisations, multinational corporations, epistemic communities, and networks. For non-state actors to fully take part in global environmental governance on an equal footing with state actors is of course difficult, because they do not act with authoritative, public, state-centred power. Yet non-state actors are playing an important role and are increasingly becoming influential in the practice and composition of global environmental governance. Peter J Spiro 'Non-governmental organizations and civil society' in Daniel Bodansky et al (eds) op cit note 19 at 771; and more generally, Barbara K Woodward *Global Civil Society in International Lawmaking and Global Governance* (2010).

[81] Edith Brown Weiss 'The evolution of international environmental law' (2011) 54 *Japanese Yearbook of International Law* 1 at 19.

[82] Jonathan B Wiener 'Something borrowed for something blue: Legal transplants and the evolution of global environmental law' (2000–2001) 27 *Ecology LQ* 1295 at 1371.

[83] Tseming Yang & Robert V Percival 'The emergence of global environmental law' (2009) 36 *Ecology LQ* 615 at 616–7 and 619.

> manage natural resources. As a body of law, it is made up of a distinct set of substantive principles and procedural methods that are specifically important or unique to governance of the environment across the world. It includes: (1) public international environmental law . . . (2) national environmental law . . . and (3) transnational law, which describes the set of legal principles used to regulate the cross-border relationships between private individuals and organisations.'

Such an extended global view of environmental law also sits well with the concept of transnationalisation, which is used interchangeably with 'global' and which is understood in the environmental context as the 'legal regulation of the full gamut of economic, cultural, social, and . . . environmental interaction between and across nations'.[84] These descriptions suggest that global environmental law is simultaneously national, inter-national (between and across domestic jurisdictions), regional, and international (supra-national), and that it emanates from multiple state and non-state actors variously situated at all of these levels.

Evidently one of the ways through which environmental law has become global is through the internationalisation of environmental law (which corresponds with the Westphalian conception of the international order described above). This has to do with the process by means of which environmental laws operate beyond state borders to apply to global environmental problems (mostly the environmental commons, common public environmental goods, and transboundary environmental pollution issues). The internationalisation of environmental law involves not only the actual creation of international environmental legal rules, but also the interactive political and diplomatic process through which state and non-state actors engage to create these laws.[85] Internationalisation is, however, only part of a much grander project of the globalisation of environmental law. The *nationalisation* of international environmental law, the inter-jurisdictional transplantation of laws (or the *inter*-nationalisation of laws in terms of multi-jurisdictional transplantation), the regionalisation of national environmental laws, and the nationalisation of regional environmental laws also play a part in environmental law's becoming global or in the emergence of multilevel global environmental law. (The collective environmental governance effort of the European Union is a good representative example of the globalisation of environmental law.)

While substantive primary law would be part of global environmental law, especially in so far as it dictates the objectives of the law and governance response, global environmental law, as with any national legal system, also includes secondary procedural laws which dictate how substantive laws must be enforced or, even more broadly, how governance must be performed. In

[84] David M Ong 'From "international" to "transnational" environmental law? A legal assessment of the contribution of the "equator principles" to international environmental law' (2010) 79 *Nordic Journal of International Law* 35 at 44.

[85] Yang & Percival op cit note 83 at 646.

this sense, global environmental law consists of procedural rules such as intergovernmental organisational laws; and those laws related to access to justice and dispute resolution, due process, participative governance and transparency, which are necessary to realise the substantive objectives of global environmental law (including, for example, climate, ozone protection, and marine protection laws). Global administrative law, the procedural rules of national and regional regimes, and the more general principles of good governance enshrined in the Convention on Access to Information, Public Participation in Decision-Making and Access to Justice in Environmental Matters, 1998, serve as examples of procedural global environmental laws.

In addition to its being global and consisting of substantive and procedural laws, global environmental law consists of both formal state law and informal law-like rules which are created, interpreted and implemented by states and the many non-state actors that operate in the global environmental governance regime.[86] Multilateral environmental agreements continue to be the foundation of global environmental law and this formal source of 'hard' law will retain its status for as long as the primacy of states in the global governance order prevails. There is, however, an observable, steady emergence of private or quasi-private law-like rules that are created by non-state actors and that are also exuding growing influence in the global environmental governance domain. These non-state legal regimes are nestled in the post-modern paradigms of 'governance without government' and 'global law without the state', which is particularly instructive because it evinces a trend of normative expansion outside the scope of responsibilities and activities of states and state actors, and it suggests that non-state actors, through private law-making and enforcement, are significantly contributing to the multidimensionality of global legal pluralism.[87] To be sure 'rules are no longer a matter simply for states or intergovernmental organisations. Private firms, NGOs [non-governmental organisations], subunits of governments, and the transnational and transgovernmental networks that result, all play a role.'[88] Global non-state actors increasingly make, apply and enforce non-state law, and today it is possible to discern various forms of this non-state law:

'Technical standardization, professional rule production, human rights, intra-

[86] The co-existence of formal state and more informal non-state-based rules could also be explained in terms of Brunnée's concept of 'interactional law', where international law arises from an interactive and mutually generative process and there is little distinction between formal consent-based state law and informal, mostly voluntary, non-state law: 'the boundaries between legal norms and other social norms are fluid'. Jutta Brunnée 'COPing with consent: Law-making under multilateral environmental agreements' (2002) 15 *Leiden Journal of International Law* 1 at 34.

[87] For more on these paradigms see Rosenau & Czempiel (eds) op cit note 54; Fischer-Lescano & Teubner op cit note 16 at 1009–12.

[88] Robert O Keohane & Joseph S Nye 'Governance in a globalizing world' in Robert O Keohane (ed) *Power and Governance in a Partially Globalized World* (2002) 214.

> organisational regulation in multinational enterprises, contracting, arbitration and other institutions of *lex mercatoria* are forms of rule-making by 'private governments' which have appeared on a massive global scale. They claim worldwide validity independently of the law of the nation-states and in relative distance to the rules of international public law. They have come into existence not by formal acts of nation-states but by strange paradoxical acts of self-validation.'[89]

Examples of non-state forms of global environmental law include the ISO 14001 voluntary environmental management system ('EMS'), ecolabels, the United Nations Global Compact, the Global Reporting Initiative ('GRI'), the United Nations Principles for Responsible Investment, and the Equator Principles.[90] These are not primarily regulatory instruments. Rather they seek to change behaviour through a complex mix of incentives and do not rely primarily on external, deterrence-based enforcement.[91] They also complement the more formal state-based body of environmental law by serving as 'gap-fillers' or the technical/scientific basis for state-based laws.[92] Clearly, then, the global environmental legal order provides predominantly formal, state-based law, but also increasingly 'softer' forms of legal rules which emanate from non-state actors. These different types of legal rules, ranging from hard to soft, state to non-state, coercive to voluntary and so forth, do not exist independently of one another or act alone in achieving the environmental regulatory objectives in and of society. The nature of global environmental governance and the effects of disaggregated multi-actor and multi-level global governance in the regulatory context suggest, rather, that it is not a question of 'either or' but instead of the extent to which traditional, hard forms of law could be married to and co-exist with non-traditional and unorthodox softer or non-state forms of law.

Global environmental law also need not be exclusively or predominantly focused on the environment. The environment, as an all-encompassing phenomenon in the global context, permits an extended view of global *environmental* law. In addition to typical 'environmental' laws, various other state and non-state laws that are not directly related to environmental issues will also play a decidedly important role in the global environmental law regime and in global environmental governance. For example, there is little doubt that the international trade, humanitarian and human rights regimes are increasingly significant considerations that must be taken into account when mediating the human-environment interface, and an expanded view of 'the environment' in the context of globalisation quite evidently necessitates an incorporation of these regimes into the global environmental law and

[89] Gunther Teubner 'Foreword: Legal Regimes of global non-state actors' in Gunther Teubner (ed) *Global Law without a State* (1997) xiii.

[90] For a detailed discussion of the Equator Principles as an example of global environmental law, see Ong op cit note 84 at 35–74.

[91] Jason Morrison & Naomi Roht-Arriaza 'Private and quasi-private standard setting' in Daniel Bodansky et al (eds) op cit note 19 at 499.

[92] Ibid.

governance domain, even if they are not prima facie directly applicable.[93] The 'environment' is a virtually all-embracing concept leaving little room for reductionism when attempting to determine those legal regimes applicable to governing matters directly related or incidental thereto:

> 'The boundaries of what constitutes an 'environmental' issue have already become blurred . . . our understanding of what constitutes an environmental issue must grow to encompass economic, social, and trade policy. Indeed, if, as some claim, everything is interconnected, then everything becomes an environmental problem.'[94]

The 'environment' is a matter of narrative perspective and often the 'environment' for the purpose of legal reasoning would be that what people wish it to be. If the environment were widely interpreted, then global *environmental* law would include all forms or areas of law which have the environment directly or indirectly as subject matter. In this way, global environmental law could also include trade law, human rights law and humanitarian law, for example, if these contribute to mediating the human-environment interface to any extent.

The foregoing suggests that global environmental law is very different from international environmental law. While international environmental law is still manifestly state-bound, global environmental law discards the assumption that it derives its validity exclusively from the state. Boyd[95] explains that global environmental law

> 'seeks to move beyond the traditional focus of international environmental law on the possibilities and limits of consent-based regimes among state actors and abstract arguments regarding instrument choice toward a more empirically grounded focus on institutional design and problem solving that crosses

[93] See, for example, Sumudu Atapattu 'Sustainable development, environmental protection, and human rights: A necessary linkage?' in John McManus (ed) *Fragmentation: Diversification and Expansion of International Law* (2006). This is despite the fact that the separation between the various spheres is increasingly becoming artificial and moving away from the traditional isolation that once characterised them. Pauwelyn op cit note 40 at 903–4 cites the 'blurring' of mandates and responsibilities between the Bretton Woods Institutions and the United Nations; and the increased overlap of trade and the environment, human rights and economic development as other examples in this respect.

[94] Bodansky op cit note 9 at 10–11. Lynton K Caldwell 'Is world law an emerging reality? Environmental law in a transnational world' (1999) 10 *Colorado Journal of International Environmental Law and Policy* 227 at 229 confirms this: 'At the end of the 20th century, the world is in unprecedented transition. The adaptability of present institutions to emerging challenges is being widely questioned. In a broadly encompassing context, these areas of challenge — social, ethical, economic, and technological — have environmental implications. However, this assertion is credible only if the *environment* is understood in its holistic dimensions — comprising complex dynamic interrelationships from cosmic to microcosmic, extending beyond ordinary perceived human experience, yet nevertheless interacting with humanity, and thus shaping the parameters of life on Earth.'

[95] Boyd op cit note 12 at 504.

multiple jurisdictional scales and attends to multiple actors coordinating through a variety of organisational forms.'

Global environmental law is also an essential part of multi-level and multi-actor global environmental governance which itself is a much broader notion than international environmental governance. While states and intergovernmental organisations such as the United Nations play a dominant role in global environmental governance (as they do in international environmental governance) through the creation, interpretation and enforcement of traditional international environmental law, the latter is a mere part of a larger body of global environmental law arrangements which could also include human rights, trade and commercial law. In sum, global environmental law therefore includes a variety of co-existing and mutually reinforcing state and non-state laws that seek to mediate the human-environment interface. It includes national environmental laws of states; the collection of multi-jurisdictional, inter-national environmental laws between states; and supra-national (including regional and international) environmental laws beyond states that are made, interpreted, implemented, adjudicated and enforced by a variety of state and non-state actors variously situated at multiple levels of governance in the global context.

V THE FRAGMENTATION OF GLOBAL ENVIRONMENTAL LAW AND GOVERNANCE

The discussion of global environmental law and governance above suggests that these regimes are not coherent, whole or integrated. They are pluralistic, disaggregated and diversified; or fragmented. How does this fragmentation manifest? While fragmentation is evident in terms of the international environmental law and governance component of global environmental law and governance, it additionally appears in a variety of other forms and is thus significantly more expansive than fragmentation under the orthodox international approach.

(a) Disaggregated governance

At the most general level, global environmental law and global environmental governance are fragmented because of *governance*. It has been stated above that global environmental governance is part of the governance paradigm and that global environmental governance includes global environmental law. Today the governance phenomenon captures, among other things: relations between states, relations between states and non-state actors (such as international organisations) and between non-state actors inter se; the collective solving of social problems; power structures which are characterised by gradually diminishing sovereignty and dissolving hierarchy in these power structures; forms of control and steering by means of a mixture between cooperation and the exercise of coercive state power; and the dominance of processes over structures and the continuing change of these

structures.[96] Governance also relates to the design and functioning of regulatory interactions and the modi for collective actions such as networks or coalitions and their steering processes, including, for example, coordination activities that now traverse increasingly fluid geographic and organisational boundaries, not excepting the traditionally strict boundaries between the state and society, which have become equally blurred:[97]

> 'The concept of governance is mirrored in legal science, where scholars observe an evolution from an international law based on explicit state consent . . . and from single to pluralist sites and actors of governance . . . and to multilevel systems of governance and complex hybrid public-private international law systems . . . from the local to international levels, the concept of governance is not confined to states and governments as sole actors, but is marked by participation of [a] myriad public and private non-state actors at all levels of decision-making, ranging from networks of experts, environmentalists and multinational corporations to new agencies set up by governments, such as intergovernmental bureaucracies.'[98]

The disaggregated nature of governance is further illustrated by the stark contrast between governance and the Westphalian concept of 'government'. Whereas government denotes the idea of centralised, hierarchical political power that is vested in some concrete form of state apparatus, governance lacks this hierarchy and is thus more open and flexible and could include non-state actors. The strict separation between public and private forms of authority is increasingly blurred, and 'forms of public and private ordering both overlap and become exchangeable.'[99] The term governance, therefore, not only describes the process of governing but also describes a change in how we perceive regulation today:

> 'The past twenty years have witnessed important changes in the ways in which government is exercised. . . . To capture these processes [of change], the term 'governance' was coined. . . . [It] points to a turn from a normative substantive conception of government exclusively tied to the national state based on constitutional and international law towards a functional characterization of governing activities. It embraces the possibility of a multiplicity of governance agents, who engage in new modes of exercising power.'[100]

[96] Arthur Benz 'Einleitung: Governance-Modebegriff oder nützliches sozialwissenschaftliches Konzept?' in Arthur Benz (ed) *Governance — Regieren in komplexen Regelsystemen: Eine Einführung* (2004) 16–17.

[97] See also Hubert Heinelt 'Governance auf lokaler Ebene' in Benz (ed) ibid at 30.

[98] Frank Biermann, Michele M Betsill, Joyeeta Gupta, Norichika Kanie, Louis Lebel, Diana Liverman, Heike Schroeder, Bernd Siebenhüner & Ruben Zondervan 'Earth system governance: A research framework' (2010) 10 *International Environmental Agreements: Politics, Law and Economics* 277 at 279.

[99] Karl-Heinz Ladeur 'Globalization and public governance: A contradiction?' in Karl-Heinz Ladeur (ed) *Public Governance in the Age of Globalization* (2004) 17.

[100] Franz Von Benda-Beckmann et al 'Rules of law and laws of ruling: Law and governance between past and future' in Franz von Benda-Beckmann, Keebet von Benda-Beckmann & Julia Eckert (eds) *Rules of Law and Laws of Ruling: On the Governance of Law* (2009) 1–2.

Ladeur[101] argues that governance in the context of globalisation describes a form of regulation that is more 'open'. Governance thus takes up new forms of permeability of the state where 'coordination [is] characterized by informal social systems rather than by bureaucratic structures'.[102] Governance accordingly involves fewer formal bureaucratic state arrangements and instead relies on informal 'open' methods for coordination; it provides greater linkage of actors from different institutional/governance levels; it involves a shift of power from orthodox and traditionally well-established levels and actors to organisations or individuals who now must link and coordinate different governance actors; and it entails a move away from hierarchy towards unstructured consultation, negotiation and 'softer' normative regulatory arrangements.[103]

It is in this globalised context that the concept of governance is used as the foundation of the global environmental governance paradigm to describe the different structures and forms of steering and coordination of the relations between a variety of actors with respect to the environment at various different levels and in terms of many normative arrangements.[104] Because it is nestled in the governance paradigm, global environmental governance is fragmented to the extent that it is a collective term, an analytical perspective and a normative arrangement that provides a home for *all* regulatory interventions that seek to mediate the human-environment interface, including global environmental law. International environmental law and governance (as government) and their traditional components such as states, the United Nations, and multilateral environmental agreements are only fragmented parts of a greater disaggregated collective that resorts under 'governance'. To be sure, governance in the context of globalisation, and as a contra-concept to the Westphalian perspective, is a clear embodiment of fragmentation.

(b) Multiple actors

While it might be implicit from part V(a) above, for the sake of completeness it needs to be stated explicitly that fragmentation is particularly evident in terms of the different types of state and non-state actors involved in global environmental law and governance. State and non-state actors govern with different forms of authority ranging from highly formal public state authority

[101] He specifically finds that: '"government" . . . is closely associated with the sovereign state even if it includes certain non-state forms of exercising political power [it] focuses on binding decision-making, at least as the outcome of a political process. The concept of 'governance', which might be criticized for its vagueness, also comprises, and not by chance, private forms of management.' Ladeur op cit note 99 at 10.

[102] Candace Jones, William S Hesterly & Stephen P Borgatti 'A general theory of network governance: Exchange conditions and social mechanisms' (1997) 22 *Academy of Management Review* 911.

[103] David Coen & Mark Thatcher 'Network governance and multi-level delegation: European networks of regulatory agencies' (2008) 28 *J of Public Policy* 49 at 50.

[104] Kotzé op cit note 59 at 51–149.

to more informal private non-state authority, respectively. Their involvement in law-making, interpretation, enforcement and adjudication processes is equally based on these hybrid forms of authority. The global environmental law and governance regimes therefore do not consist of a centralised, monist authority that governs the global human-environment interface; rather it is characterised by pluralistic (or fragmented) forms of authority. Despite calls for exactly such a more integrated and centralised global environmental authority (possibly in the form of a world environment organisation that develops from a strengthened UNEP),[105] the sustained move towards governance in a globalised context points to global environmental governance's becoming even more disaggregated in terms of its multi-actor character.[106]

(c) Multiple levels

The global environmental governance regime is also fragmented because it is multi-levelled. The state and non-state actors mentioned above operate at inter-national, national, regional and international levels and various institutional constructs exist at each level that are appropriate to govern those environmental issues that occur at each level. For example, while states and their governments govern sub-national and national environmental issues, states act collectively through regional organisations such as the Southern African Development Community ('SADC') and the European Union to govern collectively a whole range of regional environmental issues; or through treaty regimes to govern international environmental issues such as climate change. Thus, UNEP, various treaty regimes and other global organisations such as the World Bank operate internationally, and these provide the opportunity for state-actor governance at the international level. Non-state actors such as non-governmental organisations would operate nationally in countries, or even regionally or internationally, and international epistemic communities and other networks of environmental law and governance experts could conceivably also contribute to global environmental law and governance, as they increasingly do.[107]

(d) Legal pluralism

As a result of the fragmented architecture of global environmental governance, fragmentation is also evident in terms of the different pluralistic laws or rules the various state and non-state actors would create, apply, interpret,

[105] See generally Biermann & Bauer (eds) op cit note 37; Chambers & Green (eds) op cit note 74.

[106] The present view that the emergence of non-state actors in global environmental governance is contributing to fragmentation contrasts with that of Pauwelyn, who strangely considers that 'the emergence of non-state actors has contributed considerably to the forces acting *against* the fragmentation of the international legal system. Pauwelyn op cit note 40 at 904.

[107] The IUCN Academy of Environmental Law and the IUCN Commission on Environmental Law are two examples.

enforce and adjudicate at multiple levels. These rules are fragmented because they consist of state and non-state laws and are thus variably legalised (ranging from state or public to non-state or private rules); they occur at various levels; they are substantive and procedural; and they are focused on specific environmental or environment-related issues (for example biodiversity, climate change, oceans governance, hazardous goods regulation, ozone layer protection, and so forth). The immense variety of the foregoing rules emanates not only from the pure 'environmental' field, but also from other specialised regimes such as trade and human rights, to the extent that these are able to contribute to mediating the human/environment interface. An expanded view of 'the environment' thus has an inevitable add-on effect on global fragmentation and leads to further disaggregation as global environmental law becomes pluralised.[108]

(e) Fragmentation through reciprocal growth

Global environmental law is evidently a critical component of global environmental governance. According to the traditional role of law in society and in governance,[109] global environmental law plays a constitutive, legitimising, regulative and steering role in, of and through global environmental governance. It resolves conflicts in, of and through global environmental governance, and provides the architecture of global environmental governance and the rules that determine who must govern, what to govern, and how to govern. Through global environmental governance and its institutions, global environmental law also creates new law.[110] The two are accordingly manifestly intertwined both at a substantive and a procedural level. In addition, global environmental law and governance are mirror images of each other in that they share a similar orientation, since both seek to 'understand the changing nature of environmental regulation in the face of a bewildering complexity of state and non-state actors interacting at multiple

[108] The emergence of different types of specialised areas of law has been attributed to 'functional differentiation', which is described as the 'emergence of special types of law that seek to respond to special types of ('functional') concern'. At the same time, functional differentiation is argued to be 'at the (sociological) root of the phenomenon of fragmentation and diversification of international law'. Koskenniemi op cit note 1 at 105.

[109] See, more generally, H L A Hart *The Concept of Law* 2 ed (1994); Lon L Fuller *Anatomy of the Law* (1968); Hans Kelsen *General Theory of Law and State* (1945); Gralf-Peter Calliess & Moritz Renner 'Between law and social norms: The evolution of global governance' (2009) 22 *Ratio Iuris* 260; Nathan Pelletier 'Of laws and limits: An ecological economic perspective on redressing the failure of contemporary global environmental governance' (2010) 20 *Global Environmental Change* 220; Alan Hunt & Gary Wickham *Foucault and the Law: Towards a Sociology of Law as Governance* (1994); Bronwen Morgan & Karen Yeung *An Introduction to Law and Regulation: Text and Materials* (2007).

[110] For a detailed discussion of the role and place of law in global environmental governance see Kotzé op cit note 59 at 150–84 and 267–93.

levels in ways that no longer fit with traditional understandings of the Westphalian state system'.[111]

If one accepts that law has a constitutive function in addition to its regulative function, it follows that the fragmentation of global environmental law leads to the fragmentation of global environmental governance, because the multiplicity of the laws creates a multitude of organisations, processes and other governance mechanisms that must administer and enforce these laws and endeavour to achieve their objectives. Abi-Saab Georges[112] explains this reciprocity by applying a 'law of legal physics' argument, which suggests that 'to each level of normative density, there corresponds a level of institutional density necessary to sustain the norms'. In other words, the more complex, comprehensive or 'dense' a normative framework becomes, the more the institutions increase in order to govern them. While the same reciprocal relationship of mutual growth is evident between international environmental law and international environmental governance, in the global context it is more far-reaching, since the number and types of actors and institutions and the concomitant number and types of state and non-state laws that they create go far beyond traditional sources of international environmental law and state government-type actors and institutions. The result is a mass of parallel, often conflicting and multifarious legal rules and institutional arrangements that are responsible for specific issue-areas. As this takes place, law is changing the global environmental governance landscape through a process of normative and institutional expansion, differentiation and hybridisation. Yet it is the same pluralistic global environmental governance arrangements that are conversely contributing to pluralising and further disaggregating global environmental law. The consequence of their being reciprocally connected is therefore that fragmentation of the one is a cause and a consequence of fragmentation of the other; or put differently, that fragmentation is an inevitable occurrence associated with the continuous disaggregation and growth of the symbiotic relationship between global environmental law and global environmental governance.

VI REAPPRAISING FRAGMENTATION

It has been indicated above that fragmentation has the distinct characteristic to evoke unease and that it usually has a negative connotation. It is mostly seen as 'a threat to the unity of international law — a unity which [jurists] believe to have existed or to still exist, or towards which . . . both the law-maker and the practitioner/judge ought at least to strive'.[113] Fears associated with fragmentation are especially evident in the Westphalian context. But views on fragmentation are in constant flux:

[111] Boyd op cit note 12 at 505.

[112] Georges Abi-Saab 'Fragmentation or unification: Some concluding remarks' (1999) 31 *New York University J of International Law and Policy* 919 at 925.

[113] Brono Simma 'Fragmentation in a positive light' (2004) 25 *Michigan J of International Law* 845.

> 'In periods of confidence, international lawyers apprehend the world from the point of view of legal unity under which the elaboration of special norms and institutions is not to be feared. . . . In periods of anxiety, international lawyers tend to see the world as an anarchic society that could misuse the same special rules and institutions.'[114]

Whether we currently live in times of confidence or anxiety would be hard to tell. Compared to the excitement and optimism that prevailed in the aftermath of the Second World War when a great deal of the international legal order was constructed, and considering the prevailing gloom created by the current deepening global financial crisis, now is probably a time of anxiety.

This article proposes that fragmentation should not necessarily have only pejorative connotations, whether we live in anxious times or not. We should also not overstate the perceived negative effects of fragmentation in the global environmental regulatory arena. As Tomuschat[115] suggests, 'allegations of fragmentation of international law are greatly exaggerated. . . . [Fragmentation] should not be seen as a threat to international law, but instead as the reflection of a living reality where international law has become a major factual power able to exert a decisive influence on societal development.' The same is true for fragmentation in terms of the global environmental regulatory milieu, where fragmentation is not necessarily undesirable; it is an inevitable result of a globally disaggregating law and governance order. From the perspective of global environmental law and governance, the disaggregated nature of the latter regimes therefore need not compound the fears lawyers have about fragmentation. It could rather serve to transform these fears from being undesirable into characteristics that have become endemic to and even necessary elements of contemporary global environmental regulation.

(a) A matter of inevitability

The most convenient and certainly the most realistic way to commence reappraising fragmentation is to accept its inevitability as a global phenomenon and, more importantly, as a characteristic or feature of global environmental law and governance that has become an integral part of analyses that seek to understand and describe global environmental law and governance. It is also worth considering that whatever its benefits or drawbacks, fragmentation as describing a disaggregated multi-actor and multi-level global environmental law and governance effort, is probably here to stay for as long as the world is subject to the forces of globalisation. Globalisation and emerging global environmental problems (often as a result of globalisation) require polycentric global environmental governance that is based on an equally 'fluid' global environmental law system that is responsive, adaptive, flexible, and open-ended. Thus, while the integration of some aspects, actors and

[114] Martineau op cit note 4 at 8.
[115] Tomuschat op cit note 67 at 353.

components of global environmental law and governance could be conducive to fostering confidence, legal certainty, predictability, uniformity and (administrative) governance efficiencies, one must accept that global environmental law and governance will continue to be fragmented and to even further disaggregate as we are heading toward an 'as yet undefined global order, characterized in part by porous borders and power-sharing among states, non-state actors, and new geographic and/or functional entities'.[116]

Viewed through the global lens of global environmental law and governance, the negative orthodox consequences of fragmentation therefore seem overstated when one realises that fragmentation of global environmental law and governance is both inevitable and possibly even desirable: '[T]he bigger the island, the better — fragmentation equals variance; variance equals relevance.'[117] Through the global lens fragmentation becomes 'pluralisation', 'diversification' and 'expansion' of the full gamut of socio-legal, political and governance arrangements that seek to mediate the human-environment interface in a globalised and interconnected world, where society will have to address the many increasingly unpredictable and complex problems that arise in the context of the Earth system. To be sure, 'the pluralist conception . . . recognises — and possibly thrives on — the diversity of the [global legal] system',[118] and the global lens thus transforms the fragmentation of international environmental law and governance into a pluralistic, diversified expansion of global environmental law and governance.

(b) Discrediting a false assumption

When one reappraises fragmentation generally, one realises an obvious but all too frequently forgotten truth: there has never been, at some earlier point in time, a coherent and unified system of international law which has been unaffected by the many regulatory difficulties that the world experiences today.[119] To assume that there has ever been some idyllic 'golden age' of a truly integrated, systematic and fully structured system of international law would thus be incorrect. Through the global environmental law and governance lens, this fallacy becomes even more starkly evident. There has never been a coherent, uniform or integrated 'golden age' of global environmental regulation and in today's globalised world it is even less likely that such a vision will ever come about. This realisation leads one to question the worth of continuing to think of fragmentation as a sort of 'diagnostic key word for a seemingly recent disease'.[120] It therefore stands to reason that to continue using fragmentation as a diagnostic aid in efforts that hark back to

[116] Brian N Winchester 'Emerging global environmental governance' (2009) 16 *Indiana Journal of Global Legal Studies* 7 at 22.

[117] Kalypso Nicolaïdis & Joyce L Tong 'Diversity or cacophony? The continuing debate over new sources of international law' (2004) 25 *Michigan J of International Law* 1349 at 1364.

[118] Burke-White op cit note 25 at 978.

[119] Tomuschat op cit note 67 at 323–4.

[120] Ibid at 323.

some former glory is unrealistic, based on false assumptions, and more importantly, pointless.

(c) The maturation of global environmental law

It is sometimes argued that fragmentation ('expansion', 'pluralisation', 'diversification' and 'hybridization' are terms equivalent to fragmentation in this context)[121] contributes to the development of international law into an autonomous legal system in its own right:

> '[T]he pluralist conception of the international legal system recognizes — and possibly thrives on — the diversity of the system. A wide range of courts will interpret, apply, and develop the corpus of international law. States will face differing sets of obligations that may even be interpreted differently by various tribunals and may at times conflict. Possibly most significantly, national and international legal processes will interact and influence one another, resulting in new hybrid procedures, rules and courts. Yet, these developments will occur within a common system of international law engaged in a constructive and self-referential dialogue that consciously seeks to maintain the coherence of the overall system.'[122]

Maturing through fragmentation is desirable, as it is seen to lead to 'healthy pluralism'.[123] The same could arguably apply to the emerging body of global environmental law as a distinct body or sub-set of legal rules, and the continuing fragmentation of global environmental law could be seen as expansion and a sign of the growing autonomy, legitimacy and maturity of global environmental law as a 'new' analytical perspective, a specialised regime, a normative set of rules, and a legal sub-discipline. Global environmental law is a new lex specialis which builds on the achievements of international environmental law. The continuous process of maturation that is associated with fragmentation will arguably enable this body of law to further develop its own set of principles, expertise, ethos, objectives and institutional structures.[124] If global environmental law could be considered an improvement over orthodox (international) environmental law, primarily because it is more compatible with the global challenges and character of its ever-changing subject matter (the environment) and collective and interconnected nature of the problems arising therefrom in the Anthropocene, then fragmentation must surely be encouraged to the extent that it contributes to the healthy expansion of a new autonomous body of law that is better able to respond to complex and unpredictable environmental problems that are global in nature and that are in constant flux. This fragmentation should not cause any panic. It is a sign that, along with the more general body of international law, global environmental law, as a specialist regime, as an

[121] Burke-White op cit note 25 at 978.
[122] Ibid.
[123] Martineau op cit note 4 at 2.
[124] Koskenniemi op cit note 1 at 14.

analytical perspective and as a normative collective, is continuously maturing, growing and intensifying in depth and reach.[125]

(d) The realities of the Anthropocene

Previous sections of this article suggested that the Earth and its systems are unpredictable, non-linear, unstructured and complex, with diverse externalities which could probably be better addressed by means of an equally hybrid, diverse, responsive and flexible normative approach.[126] The realities of the Anthropocene arguably require disaggregated multi-actor governance that is entrenched in a global context (to be understood as a temporal, geographical and reciprocally connected space, as explained above) and that consists of hybrid forms of state and non-state laws that provide 'fluid' and hybrid normative options to govern the human-environment interface. The 'signals of change'[127] in the Anthropocene are such that they re-emphasise with great urgency what we have known for a long time (but often decide to ignore): the future of life on Earth depends on modes of immediate preventive, mitigatory and adaptive intervention that are so comprehensive in geographical reach, normative diversity and temporal scale, that they would at least provide marginal future options for life to continue on Earth. Disaggregated global environmental law and governance, at least for now, seem the only likely candidates that fit the bill. In the context of the Anthropocene fragmentation, as meaning adaptive, reflexive, flexible, responsive, and dynamic global environmental law and governance, could

> 'act to support emergent and self-organizing processes instead of constraining them . . . create bridging functions and frame creativity for adaptive governance. Literature on polycentric institutions is demonstrating that dynamic efficiency is enhanced by systems of governance that exist at multiple levels with some degree of autonomy complemented by modest overlaps in authority and capability. . . . A polycentric decision-making structure allows for testing of rules at different scales and aids resource users at multiple levels in the crafting of new institutions to cope with changing situations.'[128]

Fragmentation is therefore seemingly indispensable if global environmental law and governance are to have any meaningful impact on mediating the human-environment interface in the Anthropocene.

[125] Tomuschat op cit note 67 at 336 suggests: 'A tight network of international obligations has been constructed that reaches far into areas that formerly were considered as being essentially domestic in nature. This also means that the vastly extended international regimes, once neatly separated from one another, have moved so close to one another that instances of overlapping and even open conflict have become a fact of life to be reckoned with. This new state of affairs should not cause any panic.'

[126] See also Robin & Steffen op cit note 64 at 1710.

[127] Richard A Slaughter 'Welcome to the Anthropocene' (2012) 44 *Futures* 119 at 121.

[128] Folke op cit note 43 at 729.

VII CONCLUSION

This article sought to revisit fragmentation through the lens of contemporary global environmental law and governance. In doing so, it explored the extent to which fragmentation manifests in the traditional, orthodox, Westphalian international environmental law setting and it indicated what many perceive to be the 'negative' effects of fragmentation. This parochial approach, it argued, is neither justified in a global setting, nor is it useful to an attempt to understand the disaggregation of law and governance in the context of contemporary global environmental regulation. Paulus[129] in my view correctly suggests that 'reaffirmations of orthodoxy will be of little help', and reaffirmations of fragmentation in the strict international context serve only to perpetuate the out-dated, stylised, hierarchical and static Westphalian rhetoric,[130] while ignoring the many other crucial elements of and considerations in contemporary global environmental regulation. Global environmental law and governance are inevitably fragmented phenomena by nature because they are multilevel, multi-actor enterprises that are as much products of globalisation as they have been created to deal with the many environmental issues arising in a globalized world. Also, the severity and nature of environmental problems today mean that they require pluralised/hybridised/disaggregated or fragmented law and governance interventions that are better able to respond to complexity, non-linearity, and unpredictability. Consequently, the birth, continuous growth and prevalence of global environmental law and governance are heralding a turning point in the discourse of both international law and environmental law, where fears of fragmentation and its consequences should be dismissed as the exaggerations of traditionalists. In the context of global environmental law and governance, fragmentation quite evidently is 'a rather positive demonstration of the responsiveness of legal imagination to social change.'[131] It should therefore be embraced to the extent that it is an inevitable part of a juridical re-imagination of more suitable global responses that are better able to mediate the human-environment interface in times of socio-economic, political and, ultimately, environmental change.

[129] Paulus op cit note 56 at 1049.
[130] Brown Weiss op cit note 45 at 1558.
[131] Koskenniemi & Leino op cit note 3 at 575.