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אוניברסיטת תל-אביב
הפקולטה למשפטים ע"ש בוכמן
הקתדרה לזכויות האדם
על שם אני ופול ינוביץ'

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GlobalTrust Working Paper Series
03/2013

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ISSN 2309-7248

Cite as: Peter H. Sand, The Rise of Public Trusteeship in International Environmental Law, GlobalTrust Working Paper Series 03/2013,
http://globaltrust.tau.ac.il/publications

THIRD INTERNATIONAL HAUB PRIZE SYMPOSIUM, MURNAU 2013
(forthcoming in *ENVIRONMENTAL POLICY AND LAW*, Vol. 43 No. 6)

The Rise of Public Trusteeship in International Environmental Law

Peter H. Sand

This essay is a tribute to five old friends and distinguished Haub Prize laureates: **Joseph Sax, Russell Train, Alexander Kiss, Cyril de Klemm**, and **Edith Brown Weiss**. All five of them, each in their own way, have made major scholarly contributions to the recognition of an ancient legal concept which experienced a phenomenal comeback in modern environmental law over the past forty years: viz., public trusteeship for the Earth's natural resources.

Let me start out by explaining where the "public trust doctrine" (PTD) comes from, what it is, – and what it is not. I will then try to summarize the distinct contributions of our five ICEL colleagues to the development and elaboration of the doctrine, and conclude with a few observations on its prospects in the current context of international legal theory and practice.

I.

The origins of the public trust can be traced back to Roman law, and to a famous maxim in the *Corpus Iuris Civilis* of Emperor Justinian I. (533 AD), based in turn on the earlier writings of a learned jurist, Aelius Marcianus (c. 220 AD): "So surely by the law of nature, the atmosphere, watercourses, the sea and hence the seashores, are common to all."[1]

From the 18th century onwards, English courts interpreted this text as not only excluding private property rights in tidelands and navigable waters, but also as conferring fiduciary (trusteeship) rights and duties on the sovereign so as to ensure public access for the benefit of "the people".[2] US courts in the 19th century took the British Crown's trusteeship title to

[1] *Et quidem naturali iure omnium communia sunt illa: aër, aqua profluens, et mare, et per hoc litora maris*; Institutes II.1.1 (*de rerum divisione*), and Digest I.8.2.1 (referring to vol. 3 of the Institutes of Marcianus). English translations by T.C. Sanders, *The Institutes of Justinian* (London: Longmans Green, 4th edn. 1903), p. 90; and C.H. Monro, *The Digest of Justinian* vol. 1 (Cambridge: Cambridge University Press, 1904), at 39-40. For further discussion of these sources, see J.C. Cooper, "Roman Law and the Maxim '*Cujus est solum*' in International Air Law", in I.A. Vlašić (ed.), *Explorations in Aerospace Law: Selected Essays by John Cobb Cooper 1946-1966* (Montreal: McGill University Press, 1968), pp. 33-102, at 70-73.

[2] *Ward v. Creswell*, 125 Eng. Rep. 1165 (C.P. 1741); *Gann v. Free Fishers of Whitstable*, 11 Eng. Rep. 1305 (H.L. 1865); and the earlier treatise by Lord Chief Justice Matthew Hale, *De jure maris et brachiorum ejusdem* (1667), reprinted in: R.G. Hall, *Essay on the Rights of the Crown and the Privileges of the Subject in the Sea Shores of the Realm* (London: Stevens & Haynes, 2nd edition 1875), appendix V. On contemporary UK practice, see J. Gibson, "The

seashore areas as having been transmitted to the American colonies upon statehood,[3] thereby designating the state governments as the "public trustees" to ensure beneficial uses of navigable territorial and internal waters as well as subjacent lands.[4] Subsequent US jurisprudence gradually extended the scope of public trusteeship to a broader range of natural/environmental resources, including living resources (fisheries, forests, and wildlife), while seeking to balance state and federal competences in this field.[5] A 19th century Supreme Court decision, confirming a state's power to regulate the common property in game "as a trust for the benefit of the people",[6] was thus partly overruled in favour of federal regulation, even though overall public trusteeship for wildlife now seems firmly established.[7]

Ownership of the Sea Bed under British Territorial Waters", *International Relations* 6 (1978), pp. 474-499. Note, however, that the term "public trust" in English legal usage today refers to a different category of (statutory) financial trusteeship; see note 15 *infra*, and J. Barratt, "Public Trusts", *Modern Law Review* 69 (2006), pp. 514-542.

[3] E.g., the decisions of the US Supreme Court in *Martin v. Lessee of Wadell* (1842), 41 U.S. (16 Pet.) 367, at 410-411 ("dominion and property in navigable waters, and in the lands under them, [were] held by the king as public trust"), and in *Pollard's Lessee v. Hagan* (1845), 44 U.S. (3 How.) 212, at 228-229 (public trust concept extended to all US states, pursuant to the "equal-footing" doctrine). See H.C. Dunning, "The Public Trust: A Fundamental Doctrine of American Property Law", *Environmental Law* 19 (1989), pp. 515-525; see also M.C. Blumm and M.C. Wood (eds.), *The Public Trust Doctrine in Environmental and Natural Resources Law* (Durham, NC: Carolina Academic Press, 2013).

[4] On the leading Supreme Court decision in *Illinois Central Railroad v. People of the State of Illinois*, 146 U.S. 387 (5 December 1892), see M. Selvin, *This Tender and Delicate Business: The Public Trust Doctrine in American Law and Economic Policy 1789-1920* (New York: Garland, 1987); see also J.D. Kearney and T.W. Merrill, "The Origins of the American Public Trust Doctrine: What Really Happened in Illinois Central", *University of Chicago Law Review* 71 (2004), pp. 799-931.

[5] See M.J. Bean and M.J. Rowland, *The Evolution of National Wildlife Law* (Westport, CT: Praeger, 3rd edition 1997), p. 14. On potential conflicts see W.D. Brighton and D.F. Askman, "The Role of Government Trustees in Recovering Compensation for Injury to Natural Resources", in P. Wetterstein (ed.), *Harm to the Environment: The Right to Compensation and the Assessment of Damages* (Oxford: Clarendon Press, 1997), pp. 177-206, at 193-197.

[6] *Geer v. Connecticut* (1896), 161 U.S. 519, at 528; see G.D. Meyers, "Variation on a Theme: Expanding the Public Trust Doctrine to Include Protection of Wildlife", *Environmental Law* 19 (1989), pp. 723-735.

[7] *Hughes v. Oklahoma* (1979), 441 U.S. 322. See S.M. Umstead, "Constitutional Law: State's Interest in Wild Animals", *Campbell Law Review* 2 (1980), pp. 151-172; M.C. Blumm and L. Ritchie, "The Pioneer Spirit and the Public Trust: The American Rule of Capture and State Ownership of Wildlife", *Environmental Law* 35 (2005), pp. 655-720; P. Redmond, "Public Trust in Wildlife: Two Steps Forward, Two Steps Back", *Natural Resources Journal* 49 (2009), pp. 249-311; M.C. Blumm and A. Paulsen, "The Public Trust in Wildlife", *Utah Law Review* [2013]:6.

Interpretation of the public trust doctrine differs from state to state;[8] and has also been codified in state legislative and constitutional provisions.[9] The idea of a state's fiduciary rights over certain natural resources – "a sort of guardianship for social purposes", in the words of Roscoe Pound,[10] – has since been taken up by a number of courts and legislatures outside the United States, including a series of landmark decisions by the Indian Supreme Court,[11] environmental legislation in South Africa,[12] and the Constitution of Uganda.[13]

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[8] See R. Kundis Craig, "A Comparative Guide to the Eastern Public Trust Doctrines: Classifications of States, Property Rights, and State Summaries", *Penn State Environmental Law Review* 16 (2007), pp. 1-113; id., "A Comparative Guide to the Western States' Public Trust Doctrine: Public Values, Private Rights, and the Evolution Toward an Ecological Public Trust", *Ecology Law Quarterly* 37 (2010), pp. 53-197; and M.C. Blumm et al. (eds.), *The Public Trust Doctrine in Thirty-Seven States* (Portland, OR: Lewis & Clark Law School Legal Studies Paper, 2013).

[9] E.g., see Article 1(27) of the Pennsylvanian Constitution (as amended in 1971): "Pennsylvania's natural resources are the common property of all the people, including generations yet to come; as trustee of these resources, the Commonwealth shall conserve and maintain them for the benefit of the people;" *Purdon's Pennsylvania Statutes and Consolidated Statutes Annotated* (St. Paul, MN: West, 2012), vol. 1. On subsequent restrictive interpretations of that article by Pennsylvanian state courts, see M.T. Kirsch, "Upholding the Public Trust in State Constitutions", *Duke Law Journal* 46 (1997), pp. 1169-1210.

[10] R. Pound, *An Introduction to the Philosophy of Law* (New Haven, CT: Yale University Press, 1922, rev. edn. 1954), p. 111.

[11] *Mehta v. Kamal Nath et al.* (13 December 1996), [1997] 1 S.S.C. 388, reprinted in C.O. Okidi (ed.), *Compendium of Judicial Decisions on Matters Related to the Environment: National Decisions*, vol. 1 (Nairobi: UNEP/UNDP, 1998), p. 259: "The state is the trustee of all natural resources which are by nature meant for public use and enjoyment. The public at large is the beneficiary of the sea-shore, running waters, forests and ecologically fragile lands. The state as trustee is under a legal duty to protect the natural resources." See M.R. Anderson, "International Environmental Law in Indian Courts", *Review of European Community and International Environmental Law* 7 (1998), pp. 21-30, at 29; R. Deepak Singh, "Response of Indian Judiciary to Environmental Protection: Some Reflections", *Indian Journal of International Law* 39 (1999), pp. 447-463, at 458; J. Razzaque, "Application of Public Trust Doctrine in Indian Environmental Cases", *Journal of Environmental Law* 13 (2001), pp. 221-234; R. Mushkat, *International Environmental Law and Asian Values: Legal Norms and Cultural Influences* (Vancouver: University of British Columbia Press, 2004), p. 18; and P.S. Prasad (ed.), *Environment and Public Trust Doctrine* (Hyderabad: ICFAI University Press, 2008).

[12] National Environmental Management Act (NEMA) No. 107 of 1998, Article 2(4)(o): "The environment is held in public trust for the people, the beneficial use of environmental resources must serve the public interest, and the environment must be protected as the people's common heritage"; the National Environmental Management: Biodiversity Act (NEMBA) No. 10 of 2004, Article 3 ("State's Trusteeship of Biological Diversity"); and the most recent Draft National Forests Amendment Bill, posted for public comments by General Notice No. 542 of 31 May 2013 (*National Gazette* No. 36485), providing for "the public trusteeship of the nation's forestry resources". See E. van der Schyff, "South African Natural Resources, Property Rights and Public Trusteeship: Transformation in Progress", in D. Grinlinton and P. Taylor (eds.), *Property Rights and Sustainability: Toward a New Vision of*

At this point, however, it is important to dispel some myths and misunderstandings about the nature of public trusteeship in the context of comparative environmental law. To begin with, the public trust over natural resources is a concept that belongs to the field of public law (including constitutional and administrative law and institutions),[14] and should not be confused with classic legal analogues in the field of private property law – such as the Anglo-Saxon common law of private trusts,[15] and corresponding contractual institutions in continental Europe (*fiducie, Treuhand*).[16] Since most contemporary civil law systems have no

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Property (Leiden: Nijhoff Brill, 2011), pp. 323-340; and id., "Stewardship Doctrines of Public Trust: Has the Eagle of Public Trust Landed on South African Soil?", *South African Law Journal* 130 (2013), pp. 369-389, citing the Gauteng High Court decision (interpreting Section 24 of the 1996 Constitution) in *HTF Developers vs. Minister of Environmental Affairs and Tourism*, [2006] ZAGPHC 132, paragraph 19.

[13] Constitution of Uganda (8 October 1995), Article 237(2): Government "shall hold in trust for the people and protect natural lakes, rivers, wetlands, forest reserves, game reserves, national parks and any land to be reserved for ecological and touristic purposes for the common good of all citizens"; applied to forest conservation by decision of the Kampala High Court in *Advocates Coalition for Development and Environment (ACODE) v. Attorney General* (2005), Misc. Cause No. 0100 of 2004, p. 10. For further examples from other legal systems, see M.C. Blumm and R.D. Guthrie, "Internationalizing the Public Trust Doctrine: Natural Law and Constitutional and Statutory Approaches to Fulfilling the Saxion Vision", *University of California Davis Law Review* 45 (2012), pp. 741-808.

[14] Going back to John Locke's assertion (in the *Second Treatise on Civil Government*, 1685) that governments merely exercise a "fiduciary trust" on behalf of their people; see J.W. Gough, "Political Trusteeship", in J.W. Gough (ed.), *John Locke's Political Philosophy* (Oxford: Clarendon Press, 1973), pp. 154-92; and J. Dunn, "The Concept of 'Trust' in the Politics of John Locke", in R. Rorty (ed.), *Philosophy in History* (Cambridge: Cambridge University Press, 1984), pp. 279-301.

[15] E.g., see W.A. Wilson (ed.), *Trusts and Trust-Like Devices* (London: British Institute of International and Comparative Law, 1981); D. Johnston, *The Roman Law of Trusts* (Oxford: Oxford University Press, 1988), pp. 1-7 (albeit associating common-law equitable trusts more closely with the Roman *fideicommissum* rather than the contractual *fiducia*); H. Hansmann and U. Mattei, "The Functions of Trust Law: A Comparative Legal and Economic Analysis", *New York University Law Review* 73 (1998), pp. 434-479. "Public trustees" are appointed in some common-law countries to administer the estates of minors or otherwise incapacitated persons; e.g., see the UK *Public Trustee Act* of 1906, 6 Edw. 7, c. 55.

[16] See S. Grundmann, "Trust and *Treuhand* at the End of the 20th Century: Key Problems and Shift of Interests", *American Journal of Comparative Law* 47 (1999), pp. 401-428; D. Hayton et al. (eds.), *Principles of European Trust Law* (The Hague: Kluwer Law International, 1999); and O. Reichard, *Die neue* fiducie *des französischen Code civil im Vergleich mit der deutschen Treuhand kraft privaten Rechtsgeschäfts* (Baden-Baden: Nomos, 2013). Equally unrelated to environmental trusteeship is the unique fiscal *Treuhand-Anstalt* established after German re-unification to privatize the former East German government's real estate holdings; see W. Seibel, "Necessary Illusions: The Transformation of Governance Structures", *Tocqueville Review* 13 (1992), pp. 178-197. On the pitfalls of the *Treuhand* analogy, see P.H. Sand, "Trusteeship for Common Pool Resources? Zur Renaissance des Treuhandbegriffs im Umweltvölkerrecht", in S. von Schorlemer (ed.), *Praxis-Handbuch UNO: Die Vereinten Nationen im Lichte globaler Herausforderungen* (Berlin: Springer, 2003), pp. 201-24, at 216.

direct equivalent of the trust in either private or public law,[17] references to trusteeship thus tend to be either mistranslated,[18] or else discarded as "inappropriate private-law analogies" by lawyers outside the common-law family.[19]

On the other hand, there are some striking similarities to the German constitutional law concept of social restrictions on property rights (*Sozialpflichtigkeit*),[20] and on the use of certain natural resources dedicated as public goods (*öffentliche Sachen*),[21] often by way of servitudes or easements ensuring public access,[22] facilitated by procedural instruments such as

[17] See W.F. Fratcher, "Trust", *International Encyclopedia of Comparative Law* vol. 6:11 (Tübingen: Mohr, 1973), pp. 84-141; and D.W.M. Waters, "The Institution of the Trust in Civil and Common Law", *Recueil des Cours de l'Académie de Droit International* 252 (1995), pp. 113-454.

[18] E.g., Woodrow Wilson's key term, "sacred trust of civilization", in Article 22 of the 1919 League of Nations Covenant and Article 73 of the 1945 United Nations Charter, was considered to have no linguistic equivalent in French and therefore was rendered as *mission sacrée*, thus shifting the legal metaphor from trusteeship to mandate/agency (*heilige Aufgabe* in the German version of the Covenant, *Auftrag* in the UN Charter). See R. Jacobs, *Mandat und Treuhand im Völkerrecht* (Göttingen: Universitäts-Verlag, 2004), at 82 and 111; and N. Matz, "Civilization and the Mandate System Under the League of Nations as Origins of Trusteeship", *Max Planck Yearbook of United Nations Law* 9 (2005), pp. 47-95, at 50 and 71 (considering Wilson's term to be "without specific legal or even political meaning", though possibly analogous to tutelage or guardianship).

[19] E.g., see M. Bothe, "Whose Environment? Concepts of Commonality in International Environmental Law", in G. Winter (ed.), *Multilevel Governance of Global Environmental Change: Perspectives from Science, Sociology and the Law* (Cambridge: Cambridge University Press, 2006), pp. 539-558, at 551 and 558; and the reference to trusteeship as a "private law paradigm" (in response to Benevenisti, note 43 *infra*) by A. von Bogdandy and D. Schmalz, "Pushing Benevenisti Further: International Sovereignty as a Relative Concept", in *AJIL Symposium: Sovereigns as Trustees of Humankind* (Opinio Juris blog, 25 July 2013).

[20] See R. Dolzer, *Property and Environment – The "Social Obligation" Inherent in Ownership: A Study of the German Constitutional Setting*, Environmental Policy and Law Paper No. 12 (Morges: IUCN, 1976); Brown Weiss (note 61 *infra*) p. 399; and H. Dagan, "The Social Responsibility of Ownership", *Cornell Law Review* 92 (2007), pp. 1255-1273.

[21] See F. Merli, *Öffentliche Nutzungsrechte und Gemeingebrauch* (Vienna: Springer, 1995), pp. 82-85; and H. Kube, "Private Property in Natural Resources and the Public Weal in German Law: Latent Similarities to the Public Trust Doctrine?", *Natural Resources Journal* 37 (1997), pp. 857-880. See also H.F. Zacher, "Erhaltung und Verteilung der natürlichen Gemeinschaftsgüter: eine elementare Aufgabe des Rechts", in P. Badura and R. Scholz (eds.), *Wege und Verfahren des Verfassungslebens: Festschrift für Peter Lerche* (Munich: Beck 1993), pp. 107-118; C. Engel, "Das Recht der Gemeinschaftsgüter", *Die Verwaltung* 30 (1997), pp. 429-479; and L.P. Feld et al., "Umweltgemeingüter?", *Zeitschrift für Wirtschafts- und Sozialwissenschaften* 117 (1997), pp.107-144.

[22] Kube (note 21 *supra*), at 862. For example, public access to all natural areas regardless of ownership, and free collection of wild fruits and flowers (except for protected species), is guaranteed by Article 141(3) of the state constitution of Bavaria (1946); see U. Hösch, *Eigentum und Freiheit* (Tübingen: Mohr Siebeck, 2000), p. 197. – On public trusteeship as a conservation easement in the United States, see M.C. Blumm, "Public Property and the Democratization of Western Water Law: A Modern View of the Public Trust Doctrine",

"fiduciary" rights of action for non-governmental organizations (NGOs).[23] Along the same lines, the concept of *domaine public* in French public/administrative law has been identified as a parallel to the Anglo-American public trust, investing the state with custodianship (*droit de garde*, rather than ownership)[24] over inalienable natural resources such as the seashore, which must remain accessible for everybody.[25] In Italy, state authorities designated as trustees for the community interest may take judicial recourse for damage to the nation's environmental resources.[26] In Sweden, the Nature Conservation Board has since 1964 served as public trustee for protected natural areas;[27] and as in other Scandinavian countries (Denmark, Finland, Iceland, Norway), customary law (*allemansrätt*) guarantees access to wilderness areas and wildlife resources regardless of ownership.[28] A further parallel is the charitable *habûs* or *waqf* in Islamic legal systems,[29] where nature conservation is considered one of the legitimate dedication purposes.[30]

Environmental Law 19 (1989), pp. 573-604, at 580-584; and D.D. Gregory, *The Easement as a Conservation Technique*, Environmental Law Paper No. 1 (Morges: IUCN, 1972).

[23] See the proposal by E. Gassner, *Treuhandklage zugunsten von Natur und Landschaft: Eine rechtsdogmatische Untersuchung zur Verbandsklage* (Berlin: Erich Schmidt Verlag, 1994), pp. 40-48, expressly referring to the concept of public trusteeship for nature conservation.

[24] M. Lagrange, "L'évolution du droit de la domanialité publique", *Revue du Droit Public et de la Science Politique en France et à l'Étranger* 90 (1974), pp. 1-19, at 19; see also note 78 *infra*. The definition comes close to Roscoe Pound's concept of guardianship for social purposes (note 10 *supra*).

[25] J.P. Lebreton, *Le domaine public* (Paris: Documentation Française, 1988), p. 19, referring to the "*Loi relatif à l'aménagement, la protection et la mise en valeur du littoral*" (Law No. 86-2, of 3 January 1986). See also M. Falque (ed.), *Marine Resources: Property Rights, Economics and Evironment* (Oxford: Elsevier JAI, 2002), p. xxiii; and L. Prieur, *Droit et littoral: recherches sur un système juridique* (Brest: Université de Bretagne Occidentale, doctoral thesis 2001). On public-benefit servitudes for conservation purposes under French land law, see A. Diot, in Gregory (note 22 *supra*), pp. 34-41.

[26] A. Bianchi, "Harm to the Environment in Italian Practice: The Interaction of International Law and Domestic Law", in Wetterstein (note 5 *supra*), pp. 103-129, at 105; see also L. Francario, *Danni ambientali e tutela civile* (Naples: Novene, 1990).

[27] T. Hillmo and U. Lohm, "Nature's Ombudsmen: The Evolution of Environmental Representation in Sweden", *Environment and History* 3 (1997), pp. 19-43.

[28] See P.H. Sand, *Legal Systems for Environment Protection: Japan, Sweden, United States*, FAO Legislative Studies No. 4 (Rome: Food and Agriculture Organization of the United Nations, 1972), p. 10; and Å. Åslund, *Allemansrätten och markutnyttjande: Studier av ett rättsinstitut* (Linköping University: PhD thesis, 2008). See also M. Reusch and S. Jäggi, "Das Recht auf Erholung in der Natur in Skandinavien", *Natur und Recht* 34 (2012), pp. 830-831.

[29] T. Khalfoune, "Le *habous*, le domaine public et le trust", *Revue Internationale de Droit Comparé* 57 (2005), pp. 441-470, at 467; see also Fratcher (note 17 *supra*), at 108-112.

[30] See A.A. Bagader et al., *Environmental Protection in Islam*, Environmental Policy and Law Paper No. 20/Rev. (Gland: IUCN, 2nd edition 1994), p. 27. As an illustration, K. Baslar, *The Concept of the Common Heritage of Mankind in International Law* (The Hague: Kluwer Law International, 1998), at pp. 66-67/fn. 150, mentions a public *waqf* established in the 17th

While these examples will hardly suffice to elevate the public trust doctrine to a mutually recognized general principle of law,[31] they furnish empirical evidence of the growing transnational/transcultural convergence of environment-driven legal institutions.[32]

II.

Most of the credit for the revival of the public trust in US environmental law is due to the work of **Joseph L. Sax**.[33] His seminal article in the *Michigan Law Review*[34] established the doctrinal basis for the 1970 Michigan Environmental Protection Act which he drafted,[35] and which in turn has served as a template for subsequent legislation at both state and federal level, as well as an authoritative reference source for courts and jurists in the United States and abroad.[36] The "Saxion vision"[37] broadened the scope of public trusteeship from its

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century Ottoman Empire to protect wild storks and to facilitate their intercontinental migration – not unlike the use of charitable title acquisition to preserve strategic natural areas by the "land trust movement" in Britain and North America; see J. Dwyer and I. Hodge, *Countryside in Trust: Land Management by Conservation, Recreation, and Amenity Organisations* (Chichester: Wiley, 1996); and S.K. Fairfax and D. Guenzler, *Conservation Trusts* (Lawrence, KS: University Press of Kansas,2001).

[31] As suggested, somewhat optimistically, by Blumm and Guthrie (note 13 *supra*), at p. 750. In a different context, museums in the United States also claim to hold art work "in trust for the public benefit"; see J. Cuno (ed.), *Whose Muse? Art Museums and the Public Trust* (Princeton, NJ: Princeton University Press, 2004); F.W. Bell, "Museum Art Held in Trust" (*New York Times*: letter to the editor, 30 March 2009); C.A. Goldstein and Y.M. Weitz, "Claim by Museums of Public Trusteeship and Their Response to Restitution Claims: A Self-Serving Attempt to Keep Holocaust-Looting Art", *Art, Antiquity and Law* 16:3 (2011), pp. 215-218.

[32] See generally G. Teubner, "Global Bukowina: Legal Pluralism in the World Society", in G. Teubner (ed.), *Global Law Without a State* (Aldershot: Dartmouth, 1997), pp. 3-28; and B. de Sousa Santos, *Toward a New Legal Common Sense* (London: Butterworth, 2nd edition 2002).

[33] Three legal symposia have acknowledged and honoured the contribution of Joseph Sax: "The Public Trust Doctrine in Modern Natural Resources Management" (September 1980), *University of California Davis Law Review* 14 (1981), pp. 181-496; "Takings, Public Trust, Unhappy Truths, and Helpless Giants: A Review of Professor Joseph Sax's Defense of the Environment Through Academic Scholarship" (January 1998), *Ecology Law Quarterly* 25 (1998), pp. 325-438; and "The Public Trust Doctrine: 30 Years Later" (March 2011), *University of California Davis Law Review* 45 (2012), pp. 665-1176.

[34] J.L. Sax, "The Public Trust Doctrine in Natural Resources Law: Effective Judicial Intervention", *Michigan Law Review* 68 (1970), pp. 471-556. See also J.L. Sax, *Defending the Environment: A Strategy for Citizen Action* (New York: Alfred Knopf, 1971).

[35] Public Act No. 127 of 27 July 1970, reprinted in *Michigan Law Review* 70 (1972), p. 104, and in Sand (note 28 *supra*), p. 59; see also J.L. Sax and J.F. DiMento, "Michigan's Environmental Protection Act: Progress Report", *Michigan Law Review* 70 (1972), p. 1003.

[36] E.g, see the Indian Supreme Court case of *Mehta v. Kamal Nath* (note 11 *supra*), at p. 260.

[37] Blumm and Guthrie (note 13 *supra*).

narrower historical origins to the full spectrum of environmental resources,[38] while at the same time empowering the ultimate beneficiaries of the trust (i.e., civil society) to enforce the terms of the trust against the trustees by way of citizen suits,[39] on a par with traditional private property owners, "simply by virtue of their status as members of the public".[40]

In 1972, **Russell E. Train** (at the time head of the US Council on Environmental Quality) submitted a draft entitled *World Heritage Trust Convention* to UNESCO.[41] Although the term "trust" was subsequently deleted from the draft, – apparently because the word was considered untranslatable into French,[42] – the world heritage treaty regime as it subsequently evolved may well qualify as the first instance of transnational public trusteeship:[43]

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[38] J.L. Sax, "Liberating the Public Trust Doctrine From Its Historical Shackles", *University of California Davis Law Review* 14 (1980), pp. 185-194.

[39] See J.L. Sax, "Emerging Legal Strategies: Judicial Intervention", *Annals of the American Academy of Political and Social Science* 389 (1970), pp. 71-76; and id., "Environmental Citizen Suits: Three Years' Experience Under the Michigan Environmental Protection Act", *Ecology Law Quarterly* 4 (1974), pp. 1-62.

[40] Sax, *Defending the Environment* (note 34 *supra*), p. 158. See, however, the recent backlash of more restrictive interpretations of citizen standing rights by the US and Michigan Supreme Courts, as diagnosed in H. Terry, "Still Standing But Teed Up: The Michigan Environmental Protection Act's Citizen Suit Provision After *National Wildlife Federation v. Cleveland Cliffs*", *Michigan State Law Review* [2005], pp. 1297-1324.

[41] UNESCO Doc. SHC/MD/18/Add.1 (1972); see R.L. Meyer, "*Travaux Préparatoires* for the UNESCO World Heritage Convention", *Earth Law Journal* 2 (1976), pp. 45-81, at 48. For background, see R.N. Gardner (ed.), *Blueprint for Peace* (New York: McGraw Hill, 1966), p. 154-155 (1965 White House Conference on International Cooperation, recommending "a trust for the world heritage"); US Council on Environmental Quality, *Environmental Quality: Second Annual Report* (Washington, DC: CEQ, 1971), pp. 302-303 (message by President R.M. Nixon, calling for "a world heritage trust"); R. Train, "A World Heritage Trust", in E.R. Gillette (ed.), *Action for Wilderness* (Washington, DC: Sierra Club, 1972), pp. 172-176; and id. "An Idea Whose Time Has Come: The World Heritage Trust, A World Need and World Opportunity", in H. Elliott (ed.), *Second World Conference on National Parks: Proceedings* (Morges: IUCN, 1974), pp. 377-381.

[42] See M. Batisse and G. Bolla, "L'invention du 'patrimoine mondial'", in *UNESCO Action as Seen by Protagonists and Witnesses: History Paper No. 2* (Paris: Association of Former UNESCO Staff Members, 2003), p. 17; and C. Redgwell, "Protecting Natural Heritage and its Transmission to Future Generations", in A.A. Yussuf (ed.), *Standard-Setting in UNESCO, Vol. 1: Normative Action in Education, Science and Culture* (Paris/Leiden: UNESCO/Nijhoff, 2007), pp. 267-288, at 268/fn. 9. – The t-word was, however, retained for the World Heritage Fund ("trust fund" in English, rendered as *fonds de dépot* in French and as *fondo fiduciario* in Spanish); see Article 15(2) of the Convention for the Protection of the World Cultural and Natural Heritage (Paris, 23 November 1972), 1037 *United Nations Treaty Series* 152.

[43] A.C. Kiss and D. Shelton, *Guide to International Environmental Law* (Leiden: Nijhoff, 2007), p. 16 ("a form of trust"); M.C. Wood et al., "Securing Planetary Life Sources for Future Generations: Legal Actions Deriving from the Ancient Sovereign Trust Obligation", in M.B. Gerrard and G.E. Wannier (eds.), *Threatened Island Nations: Legal Implications of Rising Seas and a Changing Climate* (Cambridge: Cambridge University Press, 2012), pp. 531-588, at 580; and E. Benvenisti, "Sovereigns as Trustees of Humanity: On the

(a) world heritage sites are dedicated [as *corpus* of the trust] through nomination by a host state and acceptance of the nomination by the World Heritage Committee (WHC) representing the community of all member states [as collective trustor/settlor];

(b) the host state of a site [as trustee] incurs fiduciary duties to protect and conserve the site so dedicated for the benefit of present and future generations of "all the peoples of the world" [as beneficiaries], and to report to the trustor [and the co-trustees] through the WHC on the conservation status of the site (so-called active monitoring); and

(c) the beneficiaries, represented by civil society organizations,[44] may invoke the terms of the trust to hold the host/trustee state accountable for non-compliance with the terms of the trust, either through their national courts,[45] or through the WHC by requesting the down-listing of a site as "world heritage in danger", or eventual de-listing (reactive monitoring).[46] In view of its wide transnational media attention in particular, the WHC down-listing/de-listing practice thus evolved into an effective participatory instrument to induce compliance with the trusteeship regime.[47]

Accountability of States to Foreign Stakeholders", *American Journal of International Law* 107 (2013), pp. 295-333, at 329. But see Bothe (note 19 *supra*), at p. 551, questioning whether the WHC regime "could be compared to a trust or a similar concept of private law" [*sic*].

[44] E.g., see the decision of the Federal Court of Australia in *Friends of Hinchinbrook Society v. Minister for Environment*, confirming an NGO's standing to challenge governmental decisions concerning the Great Barrier Reef world heritage site; *Australian Law Reports* 142 (1997), p. 632, and *Australian Law Reports* 147 (1997), p. 608.

[45] Several WHC cases brought by NGOs in Australian courts are reviewed in B. Boer and G. Wiffen, *Heritage Law in Australia* (Oxford: Oxford University Press, 2006). See also the South African High Court decision in *Hout Bay Residents' Association et al. v. Entillini Concession Ltd.*, Case No. 7648/12, Western Cape High Court (Cape Town, 6 June 2012).

[46] Sections 169-174 of the *Operational Guidelines for the Implementation of the World Heritage Convention*, UNESCO Doc. WHC.12/01 (July 2012). A critical IUCN report thus triggered action by the World Heritage Committee in the case of Australia's Kakadu National Park; see E. Morgera, *Corporate Accountability in International Environmental Law* (Oxford: Oxford University Press, 2009), p. 228. On the role of information from NGOs in the down-listing process, see S. Litton, "The World Heritage 'In Danger' Listing as a Taking", *New York University Journal of International Law and Politics* 44 (2011), pp. 219-265, at 234 fn. 81. Similar down-listing procedures for endangered sites, though based on unilateral site nominations only, have been developed under the 1971 Ramsar Convention on Wetlands of International Importance Especially as Waterfowl Habitat (996 *United Nations Treaty Series* 245), through the "Montreux Record" created by decision VI.1/1996 of the Conference of the Parties.

[47] See C. Redgwell, "The International Law of Public Participation: Protected Areas, Endangered Species, and Biological Diversity", in D.N. Zillman et al. (eds.), *Human Rights in Natural Resource Development of Mineral and Energy Resources* (Oxford: Oxford University Press, 2002); and S. Battini, "The Procedural Side of Legal Globalization: The Case of the World Heritage Convention", *International Journal of Constitutional Law* 9 (2011), pp. 340-

In 1982, the prospect of globalizing public trusteeship for environmental protection was seized upon in the memorable Hague lectures of **Alexandre-Charles Kiss**, on "The Concept of Common Patrimony of Humankind".[48] Relating the American public trust doctrine to the French legal doctrine of *domaine public international*,[49] and expanding Arvid Pardo's contemporaneous proposal of an "ocean trust",[50] he highlighted parallels to the trusteeship regimes instituted by the League of Nations and the United Nations, for purposes of fiduciary territorial administration entrusted/mandated to states on behalf of the international community.[51] In his view, common environmental heritage "implied a form of trust",[52] illustrated not only by the World Heritage Convention but also by the Antarctic regime and the seabed regime of the Convention on the Law of the Sea.[53]

Also in 1982, **Cyril de Klemm** presented a ground-breaking report to the Third World Congress on National Parks in Bali, entitled "Protecting Wild Genetic Resources for the Future: The Need for a World Treaty",[54] which prompted IUCN to initiate the drafting of a global convention on biological diversity.[55] His basic proposition – the inspiration for which

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368; see also F. Francioni and J. Gordley (eds.), *Enforcing International Cultural Heritage Law* (Oxford: Oxford University Press, 2013).

[48] A.C. Kiss, "La notion de patrimone commun de l'humanité", *Recueil des Cours de l'Académie de Droit International* 175 (1982-II), pp. 99-256.

[49] Ibid., pp. 128/fn. 59 and 131/fn. 82, specifically referring to the writings of Joseph Sax and comparing them to theories developed by Georges Scelle, in his *Droit international public: Manuel élémentaire* (Paris: Domat-Montchrestien, 1944), yet considered to be "too closely linked to a national legal system to be universally acceptable".

[50] A. Pardo, "Introduction", in E. Mann-Borgese (ed.), *The Common Heritage: Selected Papers on Oceans and World Order, 1967-1974, by Arvid Pardo* (Malta: Malta University Press, 1975), pp. I, 39-41. On similar subsequent proposals for a "world ocean public trust", see note 70 *infra*.

[51] Kiss (note 48 *supra*), at 132-134.

[52] A.C. Kiss, *Introduction to International Environmental Law* (Geneva: United Nations Institute for Training and Research, 1997), p. 109.

[53] Ibid.; see also A.C. Kiss, *Droit international de l'environnement* (Paris: Pedone, 1989), p. 19; A.C. Kiss and D. Shelton, *International Environmental Law* (Ardsley-on-Hudson, NY: Transnational Publishers, 1991), pp. 19-20, 249; and notes 65 and 95-98 *infra*.

[54] Published as "Conservation of Species: The Need for a New Approach", *Environmental Policy and Law* 9 (1982), pp. 117-128; see M. Holdgate, *The Green Web: A Union for World Conservation* (London: Earthscan, 1999), p. 170; and C. Lambrechts, "L'oeuvre de Cyrille de Klemm dans le domaine du droit de la protection de la nature et de la biodiversité", in M. Prieur (ed.), *International Colloquy in Tribute to the Memory of Cyrille de Klemm: Biological Diversity and Environmental Law* (Strasbourg: Council of Europe, 2001), pp. 9-11.

[55] See Resolution 16/24 adopted by the 16th session of the IUCN General Assembly (Madrid, 1984); and the reports to the 17th and 18th sessions in San José (1986) and Perth (1988). The proposal of a "species convention" was also taken up in the report of the World Commission on Environment and Development (WCED, Brundtland Commission), *Our Common Future* (Oxford: Oxford University Press, 1987), pp. 162-163. Drafting work was then taken over by

he attributed to an earlier proposal by Norman Myers[56]– was to apply elements of public trusteeship to the governance of global biological resources,[57] distinguishing the conservation of *genotypic* wildlife species (viewed in abstract terms as humankind's non-renewable genetic capital)[58] from traditional conservation regimes for existing *phenotypic* wildlife specimens and populations (viewed in concrete terms as renewable natural resources under national sovereignty or in areas beyond national jurisdiction).[59]

It was **Edith Brown Weiss** who injected a distinct inter-generational emphasis into the international legal debate on environmental trusteeship, first formulated in 1984 in an essay on "The Planetary Trust: Conservation and Intergenerational Equity",[60] and elaborated in the context of a project on "innovation in international law" sponsored by the United Nations University under the general editorship of Richard Falk.[61] Casting her net over a wide range of historical sources from different cultural traditions,[62] she identified three principles of

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an intergovernmental negotiating committee under UNEP auspices; see 1760 *United Nations Treaty Series* 79, and D.M. McGraw, "The Story of the Biodiversity Convention: Origins, Characteristics and Implications for Implementation", in P.G. Le Prestre (ed.), *Governing Global Biodiversity: The Evolution and Implementation of the Convention on Biological Diversity* (Aldershot: Ashgate, 2002), pp. 9-43.

[56] N. Myers, *The Sinking Ark: A New Look at the Problem of Disappearing Species* (Oxford: Pergamon Press, 1979), pp. 242-252, at 248 ("a Trust for Species").

[57] De Klemm (note 54 *supra*), p. 124 ("vesting ownership/trusteeship/stewardship of species in the world community"); see P.H. Sand, "Wildlife Protection", in R. Bernhardt (ed.), *Encyclopedia of Public International Law*, Part 9 (Amsterdam: Elsevier, 1986), pp. 409-414, at 414.

[58] C. de Klemm, "Le patrimoine naturel de l'humanité", in R. J. Dupuy (ed.), *L'avenir du droit international de l'environnement / The Future of the International Law of the Environment* (Dordrecht: Nijhoff, 1985), pp. 117-150, at 123-124 and 138-139, citing Kiss (note 48 *supra*).

[59] See also C. de Klemm and C. Shine, *Biological Diversity and the Law: Legal Mechanisms for Conserving Species and Ecosystems*, Environmental Policy and Law Paper No. 29 (Gland & Cambridge: IUCN, 1993), p. 2; and generally C. de Klemm and C. Shine, *International Environmental Law: Biological Diversity*, Course No. 6 of the Programme of Training for the Application of Environmental Law (Geneva: UNITAR, 1998).

[60] *Ecology Law Quarterly* 11 (University of California at Berkeley, 1984), pp. 495-581.

[61] E. Brown Weiss, *In Fairness to Future Generations: International Law, Common Patrimony, and Intergenerational Equity* (Tokyo: United Nations University, 1988 / Dobbs Ferry, NY: Transnational Publishers, 1989); excerpts in E. Brown Weiss, "Intergenerational Equity: A Legal Framework for Global Environmental Change", in id. (ed.), *Environmental Change and International Law: New Challenges and Dimensions* (Tokyo: United Nations University Press, 1992), pp. 385-412. See also Richard Falk's chapter on "Promoting Peace and Security in the Oceans", in the Report of the Independent World Commission on the Oceans (IWCO), *The Ocean: Our Future* (Cambridge: Cambridge University Press, 1998), pp. 33-52, at 45 ("treating the high seas as a public trust").

[62] Including (at p. 20/fn. 13) a famous quote from Karl Marx, *Das Kapital* (1865, F. Engels ed. 1884), vol. 3 ch. 46; "Ökonomische Manuskripte 1863-1867", reprinted in *Marx-Engels-*

intergenerational trusteeship with regard to the Earth's natural and cultural resource base: "conservation of options" available to future generations; "conservation of quality" comparable to that enjoyed by previous generations; and "conservation of access" for all members of the present generation. The rights and obligations deriving from these principles thus provide a normative framework for implementing the global goal of environmentally sustainable development, as expressed in the 1987 Report of the Brundtland Commission.[63]

III.

So where do the pioneering efforts of these five ICEL scholars leave us in the discourse on contemporary international environmental law? There has indeed been a number of proposals to "internationalize" the public trust doctrine,[64] by applying it more broadly – to

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Gesamtausgabe part II vol. 4 (Berlin: Dietz, 1992), p. 718: "Even society as a whole, a nation, or all contemporary societies taken together, are not owners of the Earth. They are merely its occupants, its users; and as diligent guardians [*boni patres familias*], must hand it down improved to subsequent generations."

[63] Note 55 *supra*, p. 43 ("development that meets the needs of the present without compromising the ability of future generations to meet their own needs"); and Annexe I, p. 348 (principle 2: "States shall conserve and use the environment and natural resources for the benefit of present and future generations"); see E. Brown Weiss, "Our Rights and Obligations to Future Generations for the Environment", *American Journal of International Law* 84 (1990), pp. 198-207; and id., "Implementing Intergenerational Equity", in M. Fitzmaurice et al. (eds.), *Research Handbook on International Environmental Law* (Cheltenham: Edward Elgar, 2010), pp. 100-116. See also R. Wolfrum, in G. Dahm, J. Delbrück and R. Wolfrum (eds.), *Völkerrecht*, vol. I/1 (Berlin: de Gruyter, 2nd edition, 1989), pp. 451-52 (states as mere "*Treuhandverwalter*" = trustees of the environment, in the interest of future generations); E. Agius and S. Busuttil (eds.), *Future Generations and International Law* (London: Earthscan, 1997); K.I. Vibhute, "Environment, Present and Future Generations: Intergenerational Equity, Justice and Responsibility", *Indian Journal of International Law* 38 (1998), pp. 65-73; C. Zanghi, "Per una tutela delle generazioni future", *Ius* 46 (1999), pp. 623-638; J.M. Gaba, "Environmental Ethics and Our Moral Relationship to Future Generations", *Columbia Journal of Environmental Law* 24 (1999), pp. 249-288; C. Redgwell, *Intergenerational Trusts and Environmental Protection* (Manchester: Manchester University Press, 1999); H.P. Visser 't Hooft, *Justice to Future Generations and the Environment* (Dordrecht: Kluwer Academic Publishers, 1999); and L.V. de M. Bento, "Searching for Intergenerational Green Solutions: The Relevance of the Public Trust Doctrine to Environmental Conservation", *Common Law Review* 11 (2009), pp. 7-13.

[64] See Blumm and Guthrie (note 13 *supra*); V.P. Nanda and W.K. Ris Jr., "The Public Trust Doctrine: A Viable Approach to International Environmental Protection", *Ecology Law Quarterly* 5 (1976), pp. 291-319; P. H. Sand, "A Century of Green Lessons: The Contribution of Nature Conservation Regimes to Global Governance", *International Environmental Agreements: Politics, Law and Economics* 1 (2001), pp. 33-74, at 50-51; id., "Sovereignty Bounded: Public Trusteeship for Common Pool Resources?", *Global Environmental Politics* 4 (2004), pp. 47-71; J.G. Walton, *The Concept of Trusteeship in International Environmental Law* (LL.M. thesis, University of Auckland, 2009); M. Turnipseed et al., "Reinvigorating the

Antarctica;[65] to the Amazon rainforest;[66] to all genetic resources, or to designated endangered species, protected areas or biological resources;[67] to shared water resources;[68] to regional seas;[69] to ocean resources in general;[70] to the atmosphere as a whole;[71] to the global

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Public Trust Doctrine: Expert Opinion on the Potential of a Public Trust Mandate in U.S. and International Environmental Law", *Environment* 52:5 (2010), pp. 6-14.

[65] K. Suter, *Antarctica: Private Property or Public Heritage?* (London: Pluto, 1991), p. 170.

[66] T.M. Franck, "Soviet Initiatives, U.S. Responses: New Opportunities for Reviving the United Nations System", *American Journal of International Law* 83 (1989), pp. 531-542, at 541 (commenting on Russian proposals for a "global biodiversity trust" under the auspices of the UN Trusteeship Council, and suggesting international debt relief to compensate countries such as Brazil as "administering power", for the opportunity costs of holding its tropical rainforests in trust on behalf of the global community); and A.D. Tarlock, "Exclusive Sovereignty versus Sustainable Development of a Shared Resource: The Dilemma of Latin American Rainforest Management", *Texas International Law Journal* 32 (1997), pp. 37-66, at 65. But see H. Mattos de Lemos, "Amazonia: In Defense of Brazil's Sovereignty", *Fletcher Forum of World Affairs* 14 (1990), pp. 301-312.

[67] P.F. Mercure, "La proposition d'un modèle de gestion intégrée des ressources naturelles communes de l'humanité", *Canadian Yearbook of International Law* 36 (1998), pp. 41-92, at 64 (states exercising "a sort of guardianship" over genetic resources on behalf of humanity); T. Gebel, *Der Treuhandgedanke und die Bewahrung der territorialen Souveränität durch treuhänderische Verwaltung von lebenden Umwelt-Ressourcen* (Sinzheim: Pro Universitate, 1998); R. Barnes, *Property Rights and Natural Resources* (Oxford: Hart Publishing, 2009), at p. 246 ("some form of trusteeship over biological diversity"); P.H. Sand, "Endangered Species: International Protection", in R. Wolfrum (ed.), *Max Planck Encyclopedia of Public International Law* (Oxford: Oxford University Press, 2012), vol. 3, pp. 423-429, at 428 (fiduciary accountability of states for "global trust resources"); and id., "The Concept of Public Trusteeship in the Transboundary Governance of Biodiversity", in L. Kotzé and T. Marauhn (eds.), *Transboundary Governance of Biodiversity* (Leiden: Nijhoff Brill, forthcoming 2014).

[68] M.A. Civic, "A New Conceptual Framework for Jordan River Management: A Proposal for a Trusteeship Commission", *Colorado Journal of International Environmental Law and Policy* 9 (1998), pp. 285-329.

[69] E. Raftopoulos, "The Barcelona Convention System for the Protection of the Meditrranean Sea Against Pollution: An International Trust at Work", *International Journal of Estuarine and Coastal Law* 7 (1992), pp. 27-41; id., *Studies on the Implementation of the Barcelona Convention: The Development of an International Trust Regime* (Athens: A.N. Sakkoulas Publishers, 1997); and id., "The Barcelona Convention System as an International Trust Regime: The Public Participation Aspect", MEPIELAN E-Bulletin (12 November 2012), <http://www.mepielan-ebulletin.gr>.

[70] J.M. van Dyke, "International Governance and Stewardship of the High Seas and its Resources", in J.M. van Dyke et al. (eds.), *Freedom for the Seas in the 21st Century: Ocean Governance and Environmental Harmony* (Washington, DC: Island Press, 1993), pp. 13-22; W.M. von Zharen, "Ocean Ecosystem Stewardship", *William and Mary Environmental Law and Policy Review* 23 (1998), pp. 1-108; IWCO (note 61 *supra*), pp. 45-46; M. Gorina-Ysern, "World Ocean Public Trust: High Seas Fisheries after Grotius – Towards a New Ocean Ethos", *Golden Gate University Law Review* 34 (2004), pp. 645-714; M. Gorina-Ysern et al., "Ocean Governance: A New Ethos Through a World Public Trust", in L.K. Glover and S.A. Earle (eds.), *Defying Ocean's End: An Agenda for Action* (Washington, DC: Island Press, 2004), pp. 197-212; P.H. Sand, "Public Trusteeship for the Oceans", in T.M. Ndiaye and R.

commons;[72] or the entire global environment.[73] In a few cases, the concept of trusteeship arose in the context of international adjudicatory proceedings – from the 1893 *Pacific Fur Seal Arbitration*,[74] to several judgments by the Court of Justice of the European Union,[75] and a much-quoted separate opinion by Judge Weeramantry in the International Court of Justice.[76]

Wolfrum (eds.), *Law of the Sea, Environmental Law and Settlement of Disputes: Liber Amicorum Judge Thomas A. Mensah* (Leiden: Nijhoff, 2007), pp. 521-543; and M. Turnipseed et al., "Using the Public Trust Doctrine to Achieve Ocean Stewardship", in C. Voigt (ed.), *Rule of Law for Nature: New Dimensions and Ideas in Environmental Law* (Cambridge: Cambridge University Press, 2013), pp. 365-379.

[71] Myers (n. 56 *supra*), p. 218; P. Taylor, *An Ecological Approach to International Law: Responding to Challenges of Climate Change* (London: Routledge, 1998), p. 283; P. Barnes, *Who Owns the Sky: Our Common Assets and the Future of Capitalism* (Washington, DC: Island Press, 2006); M.C. Wood, "Atmospheric Trust Litigation", in W.C.G. Burns and H.M. Osofsky (eds.), *Adjudicating Climate Change: Sub-National, National and Supra-National Approaches* (Cambridge: Cambridge University Press, 2009), pp. 99-128; K. Coghill et al. (eds.), *Fiduciary Duty and the Atmospheric Trust* (Farnham: Ashgate, 2012); and P.H. Sand, "Transboundary Air Pollution", in A. Nollkaemper (ed.), *The Practice of Shared Responsibility* (Cambridge: Cambridge University Press, forthcoming 2014).

[71] S. Borg, "The Trusteeship Council as a Keeper of the Global Commons for Future Generations, and the Role of Diplomacy in Implementing Effective Environment Protection", in D.J. Attard (ed.), *Colloquium on the Legal Protection of the Environment Beyond the Limits of National Jurisdiction* (Malta: Mediterranean Academy of Diplomatic Studies, 1992); C.D. Stone, "Repairing the Biosphere through a Global Commons Trust Fund", *Environmental Conservation* 19 (1992), pp. 3-5; H. Cleveland, "The Global Commons: A Global Commons Trusteeship Commission is Needed to Guide our Use of the Oceans, Antarctica, the Atmosphere, and Outer Space", *Futurist* 27:3 (1993), pp. 9-13; B. Weston and D. Bollier, *Green Governance: Ecological Survival, Human Rights, and the Law of the Commons* (Cambridge: Cambridge University Press, 2013), pp. 238-255. But see, for a more sceptical view, H.S. Cho, *The Public Trust Doctrine and Global Commons* (Berkeley, CA: University of California Boalt Hall School of Law, J.S.D. dissertation 1995), pp. 332, 377 ("politically unacceptable to the international community"); and the preface by J.P. Dwyer, at p. 2 ("outside of current international law").

[73] K. Bosselmann, "Environmental Governance: A New Approach to Territorial Sovereignty", in R.J. Goldstein (ed.), *Environmental Ethics and Law* (Aldershot: Ashgate, 2004), pp. 293-313; and id., *The Principle of Sustainability: Transforming Law and Governance* (Aldershot: Ashgate, 2008), pp. 145-174.

[74] *Bering Sea Fur Seals Fisheries Arbitration* (Great Britain v. United States, 15 August 1893); J.B. Moore (ed.), *History and Digest of the International Arbitrations to which the United States has been a Party* (Washington, DC: GPO, 1898), vol. 1, pp. 755-951, at 814 and 853 (US Government claiming to act as "trustee for the benefit of mankind").

[75] Cases C-804/79 (European Commission v. UK), *European Court Reports* [1981] vol. 1, p. 1045, §30; and C-325/85 (Ireland v. European Commission), *European Court Reports* [1987] vol. 3, p. 5041, §15 (declaring all EU member states "trustees of the common interest" with regard to the conservation of marine resources).

[76] Case concerning the Gabčíkovo-Nagymaros project (Hungary v. Slovakia), *International Court of Justice Reports* [1997], pp. 1-27, *International Legal Materials* 37 (1997) p. 204, at 213 (referring to a "principle of trusteeship for earth resources").

Alas, the somewhat inflationary invocation of trusteeship as an ethical equivalent of "stewardship",[77] "custodianship" or "guardianship",[78] is often purely metaphoric/rhetoric and devoid of legal substance.[79] Moreover, the concept of environmental public trusteeship should be distinguished from the multitude of "international trust funds" established over the past 40 years for a variety of purposes, including environmental conservation.[80] The "trustees" designated under those arrangements usually are international organizations – such as the United Nations and its specialized agencies,[81] the World Bank and other multilateral financial institutions,[82] as well as NGOs (such as the World Wildlife Fund).[83] Prominent examples are

[77] E.g., see A. Gillespie, *International Environmental Law, Policy and Ethics* (Oxford: Clarendon Press, 1997), p. 107; J.L. Brown, "Stewardship: An International Perspective", *Environments: Journal of Interdisciplinary Studies* 26:1 (1998), pp. 8-17; P.E. Steinberg, "Lines of Division, Lines of Connection: Stewardship in the World Ocean", *Geographical Review* 89 (1999), pp. 254-264; von Zharen (note 70 *supra*); and D. Fuchs, *An Institutional Basis for Environmental Stewardship: The Structure and Quality of Property Rights* (Dordrecht, Kluwer Academic Publishers, 2003).

[78] E.g., Canada's "custodial" justification for extending coastal jurisdiction to 100 miles under the 1970 Arctic Waters Pollution Prevention Act; see J.A. Beesley, "The Canadian Approach to International Environmental Law", *Canadian Yearbook of International Law* 11 (1973), pp. 3-12, at 6; and R.M. M'Gonigle, "Unilateralism and International Law: The Arctic Waters Pollution Prevention Act", *University of Toronto Faculty Law Review* 34 (1976), pp. 180-198. – In German legal terminology, the concept of *Hüter* (custodian or guardian) has been used as a synonym of *Treuhänder* (trustee); see R. Wolfrum, *Die Internationalisierung staatsfreier Räume* (Berlin: Springer, 1984), p. 657; and C. Calliess, "Ansätze zur Subjektivierung von Gemeinwohlbelangen im Völkerrecht: das Beispiel des Umweltschutzes", *Zeitschrift für Umweltrecht* 11 (2000), pp. 246-257, at 247. See also the "tutelary protection of global values" in G. Ziccardi Cataldo, *The Pillars of Global Law* (Aldershot: Ashgate, 2008), p. 244.

[79] E.g., see W. Stocker, *Das Prinzip des* Common Heritage of Mankind *als Ausdruck des Staatengemeinschaftsinteresses im Völkerrecht* (Zürich: Schulthess, 1993), p. 123 (reference to world cultural heritage as "comparable to trusteeship in a non-legal sense").

[80] See P.H. Sand, "Trusts for the Earth: New International Financial Mechanisms for Sustainable Development", in W. Lang (ed.), *Sustainable Development and International Law* (London: Graham & Trotman, 1995), pp. 167-184, reprinted in D. Freestone et al. (eds.), *Contemporary Issues in International Law: A Collection of the Josephine Onoh Memorial Lectures* (The Hague: Kluwer Law International, 2002), pp. 161-184. See also J. Gama Sá, "Le *trust*: de la protection patrimoniale au moyen âge à la protection internationale de l'environnement au XXI[e] siècle", *Revue Québécoise de Droit International* 21 (2008), pp. 97-118.

[81] See I. Bantekas, *Trusts Funds Under International Law: Trustee Obligations of the United Nations and International Development Banks* (The Hague: T.M.C. Asser Press~~Kluwer Law International~~, 2009), pp. 262-275; and id., "The Emergence of the Intergovernmental Trust in International Law", *British Yearbook of International Law* 81 (2010), pp. 224-280.

[82] E.g., the Bank for International Settlements (BIS) in Basel; see G.K. Simons and L.G. Radicati, "A Trustee in Continental Europe: The Experience of the Bank for International Settlements", *Netherlands International Law Review* 30 (1983), pp. 330-345.

the World Heritage Fund set up in 1972 as "a trust fund in conformity with the financial regulations of UNESCO";[84] the special Environment Fund of UNEP,[85] with over 90 "trust funds for specified purposes" established within its framework since 1973;[86] and the environmental funds established under World Bank auspices, including the 1991/1994 "Global Environment Trust Fund" (basic resource of the *Global Environment Facility*, GEF),[87] the 1992 Rain Forest Trust Fund, and the 1999 Prototype Carbon Fund (PCF), along with related implementing national trust funds.[88] However, even though the application of general fiduciary principles to these innovative financial mechanisms has long been postulated,[89] they must not be confused with public trusteeship in the sense of Joseph Sax or Cyril de Klemm:[90] The *corpus*/asset of these so-called trust funds is *not* the "natural capital" (i.e., the environmental resources) for the conservation of which the trustee state under a true public trust would be responsible to the beneficiaries, but merely the financial assets raised from contributions to those funds, for the administration of which the trustee organization is accountable to the donors.[91]

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[83] Although *WWF International* was established (in 1961) as a foundation under Article 80 of the Swiss Civil Code (considered the closest analogy to a charitable trust in Switzerland), its international board even today is referred to as the "board of trustees".

[84] See note 42 *supra*.

[85] Established by UN General Assembly Resolution 2997 (XXVII) III (15 December 1972), "to provide for additional financing of environment programmes"; see UNEP, *Compendium of Legislative Authority* (Oxford: Pergamon, 1978), p. 42.

[86] Including 47 "general trust funds" to support UNEP-sponsored environmental conventions and protocols, and a similar number of technical cooperation funds to support participation by developing countries; see the Report of the Executive Director on *Management of Trust Funds and Earmarked Contributions*, Doc. UNEP/GC.27/11/Rev.1 (15 February 2013), p. 2.

[87] See M. Ehrmann, "Die Globale Umweltfazilität", *Zeitschrift für ausländisches öffentliches Recht und Völkerrecht / Heidelberg Journal of International Law* 57 (1997), pp. 565-614; L. Boisson de Chazournes, "The Global Environment Facility Galaxy: On Linkages among Institutions", *Max Planck Yearbook of United Nations Law* 3 (1999), pp. 243-285; and Bantekas 2009 (note 81 *supra*), pp. 64-70.

[88] See Sand (note 80 *supra*), pp. 175-180; Gama Sá (note 80 *supra*), pp. 138-148; Bantekas 2009 (note 81 *supra*), pp. 187-190; Bantekas 2010 (note 81 *supra*), pp. 275-279; P.H. Sand, "Carrots without Sticks? New Financial Mechanisms for Global Environmental Agreements", *Max Planck Yearbook of United Nations Law* 3 (1999), pp. 363-388; and D. Freestone, "The World Bank's Prototype Carbon Fund: Mobilizing New Resources for Sustainable Development", in S. Schlemmer-Schulte and K.Y. Tung (eds.), *Liber Amicorum Ibrahim F.I. Shihata* (The Hague: Kluwer Law International, 2001), pp. 265-341.

[89] J. Gold, "Trust Funds in International Law: The Contribution of the International Monetary Fund to a Code of Principles", *American Journal of International Law* 72 (1978) pp. 856-866.

[90] Notes 34 and 57 *supra*.

[91] Bantekas 2009 (note 81 *supra*), p. 170, questioning whether some of these funds (such as the PCF) even qualify as trusts (pp. 189-190); see also Bantekas 2010 (note 81 *supra*), p. 279 (PCF as "an abuse of the trusteeship model envisaged under the international law of trusts").

Yet, genuine public trusteeship has also begun to manifest itself in global environmental governance. True enough, an early proposal by UN Secretary-General U Thant to include the concept in the 1972 Stockholm Declaration was unsuccessful at the time;[92] and a later proposal by Secretary-General Kofi Annan in 1997 (to reconstitute the UN Trusteeship Council as a global environmental forum)[93] suffered an inglorious death by committee.[94] There are, however, at least two existing multilateral treaties which – like the World Heritage Convention – may indeed be considered as incorporating new public trusteeship regimes:

(1) Ten years after the Stockholm Conference, the UN Convention on the Law of the Sea (UNCLOS) designated certain resources of the high seas area under the jurisdiction of the International Sea-Bed Authority (ISA) as "common heritage of mankind",[95] thereby establishing what has been labelled "one of the most developed applications of trusteeship or fiduciary relationship in an environmental context".[96] It should be kept in mind, though, that

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– Most UNEP "trust funds" (n. 86 *supra*) are actually little more than special accounts for earmarked (voluntary or assessed) contributions; Sand (note 80 *supra*) p. 174, and Bantekas 2009 (note 81 *supra*) p. 252.

[92] UN Doc. A/CONF.48/PC/WG.1/CRP.4 (1971), p. 13 (explicitly referring to "the duty of all nations to carefully husband their natural resources and to hold in trust for present and future generations the air, water, lands, and communities of plants and animals on which all life depends"); see L. Sohn, "The Stockholm Declaration on the Human Environment", *Harvard International Law Journal* 14 (1973), pp. 423-515, at 456-457.

[93] *Renewing the United Nations: A Programme for Reform*, Report of the Secretary-General to the General Assembly, UN Doc. A/51/950 (14 July 1997), §85 ("the forum through which Member States exercise their collective trusteeship for the integrity of the global environment and common areas such as the oceans, atmosphere and outer space"); and *The Concept of Trusteeship*, Note by the Secretary-General on United Nations Reform Measures and Proposals, UN Doc. A/52/849 (31 March 1998). For earlier proposals along these lines, see M.F. Strong, "The United Nations in an Interdependent World", *International Affairs* [1989], pp. 11-21; and the report of the Commission on Global Governance, *Our Global Neighbourhood* (Oxford: Oxford University Press, 1995), p. 251. See also G. de Marco and M. Bartolo, *Second Generation United Nations: For Peace in Freedom in the 21st Century* (London: Kegan Paul International, 1997), elaborating on a proposal by Maltese Foreign Minister Guido de Marco from his closing address as chairman of the 45th UN General Assembly in 1991.

[94] See P.H. Sand, "Environmental Summitry and International Law", *Yearbook of International Environmental Law* 13 (2002), pp. 21-41, at 34-35. The matter has since been mooted by UN General Assembly Resolution 60/1 of 16 September 2005, winding up the Trusteeship Council as defunct.

[95] Article 135 of the 1982 United Nations Convention on the Law of the Sea (Montego Bay, 1833 *United Nations Treaty Series* 397); see also UN General Assembly Resolution 48/263 (28 July 1994) adopting the Implementation Agreement on Part XI of UNCLOS.

[96] P. Birnie et al., *International Law and the Environment* (Oxford: Oxford University Press, 3rd edition 2009), p. 198. See also A.E. Boyle, "Remedying Harm to International Common Spaces and Resources: Compensation and Other Approaches", in Wetterstein (note 5 *supra*), pp. 83-100, at 84 (common heritage "as a form of international trusteeship").

UNCLOS/ISA trusteeship is limited to the mineral resources of the area,[97] and – contrary to Arvid Pardo's original common heritage vision – does *not* extend to marine living resources.[98]

(2) Almost twenty years later again, the FAO Assembly adopted the 2001 International Treaty on Plant Genetic Resources for Food and Agriculture (ITPGR).[99] While retreating from the "common heritage" language of its forerunner (the 1983 International Undertaking on Plant Genetic Resources, IUPGR) [100] in favour of a less controversial "common concern" formula,[101] the ITPGR succeeded in striking a balance between sovereign rights, intellectual property rights and farmers' collective rights, by consolidating a *de facto* trusteeship regime for twelve major international *ex situ* plant germplasm collections under the auspices of the Consultative Committee on Agricultural Research (CGIAR):[102]

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[97] UNCLOS (note 95 *supra*) Article 133.

[98] See note 50 *supra*. On the background of the Maltese proposal at UNCLOS, see E. Mann Borgese, *Ocean Governance and the United Nations* (Halifax: Dalhousie University, 2nd revised edition, 1996); and id., *The Oceanic Circle: Governing the Sea as a Global Resource* (Tokyo: United Nations University Press, 1998), pp. 164-165.

[99] Rome, 3 November 2001 (2400 *United Nations Treaty Series* 303). For background see K. Raustiala and D. Victor, "The Regime Complex for Plant Genetic Resources", *International Organization* 58 (2004), pp. 277-309; G. Moore and W. Tymowski, *Explanatory Guide to the International Treaty on Plant Genetic Resources for Food and Agriculture*, Environmental Policy and Law Paper No. 57 (Gland/Cambridge: IUCN, 2005); and M. Halewood et al. (eds.), *Crop Genetic Resources as a Global Commons: Challenges in International Law and Governance* (London: Routledge, 2012).

[100] FAO Conference Resolution 8/83 (Rome, 23 November 1983), text in E. Brown Weiss et al. (eds.), *International Environmental Law: Basic Instruments and References* (Dobbs Ferry, NY: Transnational Publishers, 1992), p. 502. See D. Cooper, "The International Undertaking on Plant Genetic Resources", *Review of European Community and International Environmental Law* 2 (1993), pp. 158-166; and Baslar (note 30 *supra*), pp. 307-310. But see also K. Aoki and K. Luvai, "Reclaiming 'Common Heritage' Treatment in the International Plant Genetic Resources Regime Complex", *Michigan State Law Review* [2007], pp. 35-70.

[101] See J. Brunnée, "Common Areas, Common Heritage, and Common Concern", in D. Bodansky et al. (eds.), *Oxford Handbook of International Environmental Law* (Oxford: Oxford University Press, 2007), pp. 550-573, at 564-572. Unlike the "heritage of mankind" wording of the IUPGR, the preambular terms of the ITPGR ("common concern of all countries") were considered compatible with national sovereignty claims over *in situ* plant genetic resources. See Moore and Tymowski (note 99 *supra*), at p. 21; and G. Rose, "Plant Genetic Resources: International Protection", in Wolfrum (note 67 *supra*), vol. 8, pp. 333-338, at 338.

[102] ITPGR, Article 15.1; see W. E. Siebeck and J. H. Barton, "The Implications of Applying the Legal Concept of Trust to Germplasm Collections at CGIAR Research Centers", *Diversity* 8:3 (1992), pp. 29-35; G. Moore and E. Frison, "International Research Centres: The Consultative Committee on International Agricultural Research and the International Treaty", in C. Frison et al. (eds.), *Plant Genetic Resources and Food Security: Stakeholder Perspectives on the International Treaty on Plant Genetic Resources for Food and Agriculture* (London: Earthscan, 2011), pp. 149-162.

(a) the germplasm material listed in Annex I of the treaty (including wild predecessors of 35 cultivated food crop genera and 29 forage species) is designated as the *corpus* of the trust, pursuant to a model "in-trust agreement" (ITA) under which the host states and institutions [as trustees] agree to "hold the designated germplasm in trust for the benefit of the international community, in particular the developing countries;"[103]
(b) transnational access under this multilateral system is governed by a standardized materials transfer agreement (SMTA, adopted in 2006), which also addresses benefit-sharing issues – in somewhat uneasy coexistence with the Convention on Biological Diversity,[104] and its 2010 Nagoya Protocol on Access to Genetic Resources and the Fair and Equitable Sharing of Benefits Arising from their Utilization (ABS);[105] and
(c) compliance with the treaty is monitored and controlled by a Compliance Committee (established in 2006) reporting to the ITPGR Governing Body under procedures adopted in 2011.[106] However, there is little or no procedural opportunity so far for the actual participation of civil society, currently represented predominantly by business stakeholders in the regime.[107]

Admittedly, these empirical examples still are fragmentary, and a far cry from the grand design of our five Haub Prize laureates. Questions remain, in particular, as to the most appropriate and most effective representation of an international public trust's beneficiaries

[103] ITA, Article 3; on the evolution of these agreements (since 1994), see E. Gotor et al., "The Perceived Impact of the In-Trust Agreements on CGIAR Germplasm Availability: An Assessment of Bioversity International's Institutional Activities", *World Development* 38 (2010), pp. 1486-1493.
[104] Note 55 *supra*; see T. Lochen, *Die völkerrechtlichen Regelungen über den Zugang zu genetischen Ressourcen* (Tübingen: Mohr Siebeck, 2007), pp. 228-229.
[105] UN Doc. UNEP/CBD/COP/DEC/X/1 (29 October 2010, not yet in force); see G. Moore and K.A. Williams, "Legal Issues in Plant Germplasm Collecting", in L. Guarino et al. (eds.), *Collecting Plant Diversity: Technical Guidelines* (Rome: Bioversity International, 2011); and C. Chiarolla et al., "An Analysis of the Relationship between the Nagoya Protocol and Instruments related to Genetic Resources for Food and Agriculture and Farmers' Rights", in E. Morgera et al. (eds.), *The Nagoya Protocol on Access and Benefit-Sharing in Perspective: Implications for International Law and Implementation Challenges* (Leiden: Nijhoff Brill, 2012), pp. 83-122.
[106] ITPGR Governing Body Resolution 2/2011 on Procedures and Operational Mechanisms to Promote Compliance and Address Issues of Non-Compliance (Bali, 18 March 2011); see the summary report in *Earth Negotiations Bulletin* 9:550 (21 March 2011), pp. 4-6.
[107] On the checkered history of NGO involvement in ITPGR, see P. Mooney, "International Non-Governmental Organizations: The Hundred-Year (or so) Seed War – Seeds, Sovereignty and Civil Society – A Historical Perspective on the Evolution of 'The Law of the Seed'", in Frison et al. (note 102 *supra*), pp. 135-148, at 145-148; see also A. van den Hunk, "The Seed Industry: Plant Breeding and the International Treaty on Plant Genetic Resources for Food and Agriculture"; and W.R. Pelegrina and R. Salazar, "Farmers' Communities: A Reflection on the Treaty from Small Farmers' Perspectives", ibid. pp. 163-174 and 175-182.

(viz., present and future generations of civil society).[108] Yet, growing practical experience with public participation in the enforcement of international environmental law, developed by innovative national jurisprudence,[109] and by new transnational review mechanisms such as the Compliance Committee of the 1998 Aarhus Convention,[110] demonstrate that these procedural problems are not insurmountable. Through a creeping cross-cultural process of diffusion between legal systems (defined as "*mimesis*" by historian Arnold Toynbee),[111] and a parallel

[108] E.g., see Harlan Cleveland's proposal for a "Global Commons Trusteeship Commission" (note 72 *supra*): or the international "Guardian", "Ombudsman", or "Environmental High Commissioner" proposed by C.D. Stone, *The Gnat is Older than Man: Global Environment and Human Agenda* (Princeton, NJ: Princeton University Press, 1993), pp. 83-88; L. Sohn and F. Orrego Vicuña, "Responsibility and Liability under International Law for Environmental Damage", *Annuaire de l'Institut de Droit International* [1997-I], pp. 288 and 341; and P.J. Sands, "Protecting Future Generations: Precedents and Practicalities", in Agius and Busuttil (note 63 *supra*), pp. 83-91, at 83. See also Bothe (note 19 *supra*), p. 555 ("some screening of those able to serve as the attorney of future generations would be necessary").

[109] See notes 45-47 *supra*; M.E. O'Connell, "Enforcement and the Success of International Environmental Law", *Indiana Journal of Global Legal Studies* 3 (1995), pp. 47-64; D. Bodansky and J. Brunnée, "The Role of National Courts in the Field of International Environmental Law", *Review of European Community and International Environmental Law* 7 (1998), pp. 11-20; and the collection of judgments applying public trusteeship, reprinted in C.O. Okidi (ed.), *Compendium of Judicial Decisions on Matters Related to the Environment: National Decisions*, vol. 1 (Nairobi: UNEP/UNDP, 1998), pp. 259-308. On the general relevance of domestic judicial remedies in this field, see P.H. Sand, "The Role of Domestic Procedures in Transnational Environmental Disputes", in H. Van Edig (ed.), *Legal Aspects of Transfrontier Pollution* (Paris: OECD, 1977), pp. 146-202, at 183; reprinted in P.H. Sand, *Transnational Environmental Law: Lessons in Global Change* (The Hague: Kluwer Law International, 1999), pp. 87-128.

[110] Convention on Access to Information, Public Participation in Decision-Making and Access to Justice in Environmental Matters (Aarhus, 25 June 1998), 2161 *United Nations Treaty Series* 447; see S. Rose-Ackerman and A.A. Halpaap, "The Aarhus Convention and the Politics of Process: The Political Economy of Procedural Environmental Rights", *Research in Law and Economics* 20 (2002), pp. 27-64; A. Andrusevych et al. (eds.), *Case Law of the Aarhus Convention Compliance Committee, 2004-2011* (Lviv: RACSE, 2nd edition 2011); and V. Koester, "The Compliance Mechanism: Outcomes and Stocktaking', *Environmental Policy and Law* 41 (2011), pp. 196-204. See also L. Krämer, "The Environmental Complaint in EU Law", *Journal for European Environmental Planning Law* 6 (2009), pp. 13-35; and C. Verones, "Private Party Access to Mechanisms Reviewing Compliance with International Environmental Law", in Voigt (note 70 *supra*), ch. 16. On the similarly growing role of procedures for the environmental accountability of multilateral financial institutions to civil society, see M. van Putten, *Policing the Banks: Accountability Mechanisms for the Financial Sector* (Montreal: McGill-Queen's University Press, 2008).

[111] A.J. Toynbee, *A Study of History: Reconsiderations* (Oxford: Oxford University Press, 1961), vol. 12, at p. 343 ("the reception and adoption of elements of culture that have been created elsewhere and have reached the recipients by a process of diffusion"); see also K. Kern et al., "Die Diffusion umweltpolitischer Innovationen: ein Beitrag zur Globalisierung von Umweltpolitik", *Zeitschrift für Umweltpolitik und Umweltrecht* 23 (2000), pp. 507-546.

metamorphosis from the national to the international level ("vertical transplant"),[112] the *fiduciary* accountability of states for their sustainable management of the Earth's natural resources seems well on its way to becoming a common "memetic" reference term for the future evolution of international environmental law.[113]

[112] Term coined by J.B. Wiener, "Something Borrowed for Something Blue: Legal Transplants and the Evolution of Global Environmental Law", *Ecology Law Quarterly* 27 (2001), pp. 1295-1371, at 1305; see also A. Momirov and A.N. Fourié, "Vertical Comparative Law Methods: Tools for Conceptualising the International Rule of Law", *Erasmus Law Review* 2 (2009), pp. 291-309.

[113] To social psychologists and linguists, "memes" are the equivalent of what comparative lawyers identify as transnational "legal formants"; see S. Blackmore, *The Meme Machine* (Oxford: Oxford University Press, 1999), at p. 4; and R. Sacco, "Legal Formants: A Dynamic Approach to Comparative Law", *American Journal of Comparative Law* 39 (1991), pp. 1-33.