Laura Westra · Janice Gray
Franz-Theo Gottwald *Editors*

The Role of Integrity in the Governance of the Commons

Governance, Ecology, Law, Ethics

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Preface

The 24th meeting of the Global Ecological Integrity Group took place in Munich, Germany, under the auspices of Franz-Theo Gottwald, a long-time member. It was a particularly appropriate location, given the emphasis on green spaces and healthy food that pervades that city. Hence it seemed right to use a German Press for our collection, perhaps in order to prolong the memory of that beautiful city.

We were extremely lucky to have Peter H. Sand to open the conference, a scholar no doubt cited by most of us, but not met by many, including the editors. His chapter traces the movement of international law towards the acknowledgment of the global commons (now accepted by both the UNESCO World Heritage and the FAO Plant Genes Regimes), to be "within the territorial jurisdiction of States". As well, "proprietary sovereign rights" can now be limited by norms such that the states involved may be "accountable as trustees". Such developments give hope, as they represent clear steps towards Earth Governance.

Franz-Theo Gottwald's chapter presents a scathing critique of synthetic biology, a discipline which "creates self-replicating organisms destined to be released into the environment", with enormous security risks, which are not properly addressed by either their producers, distributors, or the appropriate governmental or legal agencies, intended for the protection of the public. Biosafety is not pursued in ecology, agriculture, medicine, and several other fields. Further, the precautionary principle is not applied. Thus there is no "ethical protocol on integrity and the preservation of life-forms".

Agnes Michelot and A. Aseeva address the question of justice regarding environmental issues and the need to appreciate and protect value in ecology, not through the commodification of "ecosystem services", but through "ecological solidarity". The latter is based on the "natural spatial and temporal interdependence among entire ecosystems". This approach fosters relational justice, thus offering a way beyond both "ecocentric and anthropocentric ethics".

In the last chapter of Part I, Klaus Bosselmann returns to the challenge of the "global commons", as it emerges against the background of an ongoing "democratic vacuum at the global level", and the ever-increasing power of multinational

corporations, the main characteristic of globalisation. This situation renders urgent the need to reclaim the Earth for global citizens, through the concept of state trusteeship.

The second part opens with Janice Gray's discussion of water law and governance in which she observes that while the high seas are classified as a global commons, terrestrial waters have not yet been so classified. They continue to be governed largely by domestic law with some limited incursions of international law and some examples of international river basin agreements. This position leads her to emphasise the importance "of getting domestic water law and governance right" particularly when the over-arching guiding principles of international law, such as the "common heritage of humankind" principle, are not necessarily part of domestic, terrestrial water law. She argues that in the Australian context, public interest litigation is an important tool for strengthening domestic water law and governance. However she notes that a range of factors impact on the ability to bring public interest suits. Those factors include justiciability, cost and standing, for example. Gray then analyses two legislative amendments: one which would abolish representative standing for environmental organisations, and another which introduces strong deterrents to protest. She concludes that these amendments could impact negatively on the use of public interest litigation to enhance water law and governance. They certainly go to the heart of effective, robust and participatory democracy.

In the chapter "The Water Crisis in Flint, Michigan: Profitability, Cost-Effectiveness, and Depriving People of Water", Joseph W. Dellapenna addresses the right to water, through a discussion and analysis of the water crisis which took place in 2014–2015 in Flint, Michigan. This example shows clearly the conflict between the "quest for profitability" and "cost-effectiveness", and public health. The progression from the change in water provenance, the neglect of older equipment and in general the avoidance of controls for the protection of the public resulted in lead exposure for children, in elevated e-coli levels resulting in disease and death, and in an outbreak of legionnaire's disease. Dellapenna analyses the multiple factors involved in the crisis, including racial and social issues.

Katy Kintzele Gwiazdon discusses the contentious geopolitical issues in the South China Sea associated with China's maritime claims in this region and its associated conduct which has impacted negatively on coral, endangered species and fisheries to name but a few areas. She also cites examples of aggressive island building on sites which were once only single uninhabitable rocks visible at high tide. Such island building is, she suggests, designed to bolster China's maritime claims and extend its territory into resource-rich zones. Gwiazdon employs a human security lens to provide context to the discussion and she explores the components that foster human security as well as the way in which those components correlate to the relationship and resources in the South China Sea. Gwiazdon is concerned to demonstrate how a cooperative resolution of the present tensions may be effectuated and she emphasises the importance of doing so in order to protect the environment from more immeasurable harm.

Part III starts with Donald A. Brown, who analyses and discusses the damage caused by the disinformation campaigns waged for decades against the scientific facts of climate change. Those campaigns have not only denied evidence of climate change but also the role of human causality in that change. They argue that "more harm than good" would be caused by reducing greenhouse gasses. Brown details the huge amounts of money spent to fund numerous groups supporting misleading and false claims through the media, particularly through the work of corporate funded Think-Tanks and other groups which jointly have been responsible for at least a 50-year delay in the steps required to reduce the threat of climate change.

In the chapter "The Projection of Global and Regional Climate Change Models into Selected Ecosystem Functions and Services (Case Study Czech Republic)", Pavel Cudlín discusses several global and regional climate change models up to 2000, including how the emission scenarios of IPCC RCP 4.5 and 8.5 were applied to selected ecosystem functions (e.g. production function) and services (e.g. carbon sequestration, habitat services) at different scale levels (from small catchment to whole republic) in the Czech Republic. He observes that the Land Change Modeller, InVEST and Globio models were used for prediction of land use/land cover and the ecosystem functions/services. He notes that his prediction of the impacts of climate factor changes on the landscape up until 2000 indicates the extensive decrease in important ecosystem function performance and ecosystem service provision in the second half of last century. These changes, including gradually accepted mitigation and adaptation measures, will, he concludes, result in a substantial ecosystem service trade-off and continuous biodiversity loss.

Eva Cudlínová (tenth chapter) asks the question whether the new "bio-economy" may help mitigate climate change. Bio-economy has been discussed in both political and legal documents as well as in scientific works. However, although it is promoted as a novel step forward towards climate change mitigation, biomass production is the source of many other problems. Even the possibility of "replacing fossil fuels with bio-energy" may not reduce carbon emissions, especially as "bio-energy crops displace forests and grasslands". This chapter also raises the question of land availability, noting "land-grabbing" produces grave harms in Africa and Asia.

Part IV starts with a discussion of sustainable development, by Massimiliano Montini and Francesca Volpe. They are interested in the role and status of the concept of sustainable development and noting that international law is at the crossroads between economic development, social development and environmental protection, wonder what this will mean for sustainable development. Will the concept be revitalised or like the protagonist in the film, "Sunset Boulevarde", will it slide into oblivion? Montini and Volpe isolate three independent yet concatenate events which they believe might exercise influence on shaping the principle's future. Those events are (a) the publication of Pope Francis's Encyclical Letter Laudato Sì, (b) the adoption by the UN General Assembly of the Sustainable Development Goals and the related 2030 Agenda for Sustainable Development and (c) the conclusion of the Paris Agreement on Climate Change. Montini and Volpe conclude that the role sustainable development plays in the near future will

not depend merely on the independent legacy of the three events described above, but rather on their systemic integration and alignment.

In the chapter "The Ecological Catastrophe: The Political-Economic Caste as the Origin and Cause of Environmental Destruction and the Pre-announced Democratic Disaster", Donato Bergandi addresses the ecological crisis which he terms a "dystopian ecological catastrophe", as it enriches a few but is the cause of pollution and environmental destruction for the many". The paradigm of sustainable development has emerged without "calling into question the economic production systems". Bergandi cites the utilitarianism of both Mill and Bentham, who acknowledge the dangers of dominant classes and influence governments to promote their own interests against the good of the whole community. That is why the "current system of representative democracy is completely disconnected from. . .the pursuit of the common good". Hence he argues the present environmental situation should be accepted as a moral challenge for humanity.

In the chapter "Ecological Integrity in the Anthropocene: Lessons for Law from Ecological Restoration and Beyond", Geoffrey Garver argues that "downsizing and stabilization of the economy is urgently needed to reverse global ecological trends". The human relationship to Earth must acknowledge and respect the role that each organism has to play, both human and nonhuman, in order to achieve a "human inclusive ecocentric paradigm". Ecological integrity and "related notions" remain integral to an ethic appropriate to the anthropocene era.

Part V explores the human responsibility for the current crises. In the chapter "Addressing the Problem of Conflict-of-Interest and Moneyed Influence in Public Health: Some Case Studies", Colin L. Soskolne examines the problem of conflicts of interest between "experts" and the public interest, as the former are often supported and promoted by interested parties. Epidemiology is "a most critical science used to inform public health policy". When "moneyed influence" infiltrates science and the literature upon which public policy is founded, the damages to the health and the life of the public are incalculable.

In the chapter "Ethics and Pesticides: The Precautionary Principle as Illustrated by Glyphosate", Josef Unterweger moves from theory and general legal and moral assessments to legal practices concerning genetically modified organisms, and glyphosate, perhaps the most infamous product of the giant producer of both GMOs and pesticides, Monsanto. The difficulties of bringing to justice a major corporation, whose products are known and proven carcinogenic, and the effects of which adversely affect human beings from conception to old age, are documented and discussed.

In the chapter "Laudato Sì and the Christian Ecological Utopia", Philippe Crabbé discusses the 2015 Papal Encyclical "Laudato Sì" in some detail. Crabbé starts by tracing the historical antecedents of Pope Francis's position, as most of the concepts and arguments found in that document, Crabbé argues, have been discussed by earlier Church authorities. Nevertheless most of the concepts and arguments that animate Laudato Sì have been discussed and analysed by members of the Global Ecological Integrity Group for two years and have been declared in the Earth Charter as well. In contrast, we should note that the arguments advanced

in the Encyclical are much closer to earlier Church authorities than they are to recent environmental ethics.

Peter Venton also examines the Papal Encyclical on ecology in the chapter "Pope Francis's Ethics for Democratic Capitalism and the Common Good". He observes that in the Encyclical Pope Francis appealed for a new dialogue with people about shaping the future of our planet. Venton sees the Encyclical as constituting a vigorous attack on the ethics, politics and the economics of "neo liberal" capitalism and he argues that implicit in the encyclical's critique are proposals for "democratic capitalism" to replace the neo-liberal version of capitalism. He explains that democratic capitalism is about three dynamic systems converging as one: a democratic polity, a capitalist economic system based on markets and incentives, and a moral-cultural system which is pluralistic and, in the largest sense, liberal. Venton concludes that the concept of democratic capitalism matches most of Pope Francis's ethics and his vision of the common good for humanity.

Finally in the chapter "Natural Catastrophes and Forms of Catastrophism. A New Ethical and Moral Framework Leading Towards the 'Responsible Catastrophism Model'", Marco Ettore Grasso proposes several ways of dealing with the presently growing and rapidly peaking environmental catastrophes. He argues that we need to start by acknowledging our human limitations and our vulnerability in the face of global disasters, such as climate change. We need to study the causes of such disasters and learn to cooperate in order to prevent their arrival as much as possible. Finally, we need to cultivate solidarity among humans in order to acknowledge with Hans Jonas the principle of responsibility, more necessary than ever at his time.

We commend this book to the reader and hope that it raises interesting and challenging issues about the commons, governance, ecology, law and ethics.

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Part I
Governance for the Commons

Accountability for the Commons: Reconsiderations

Peter H. Sand

1 Dedication

Let me start with a triple *caveat*. First, English is *not* my mother tongue. And while most of us now use and misuse William Shakespeare's language in the way scholars formerly used Latin—as a means of universal communication with scholars of other nations, including the anglophones but not them alone—a native Bavarian speaking to you in English may be excused for what Dutch Supreme Court Justice Huibert Drion once compared to "the kind of frustration suffered by the person who attends a formal dinner in borrowed clothes which he knows do not fit too well" (Drion 1954, p. vi).

Secondly, I am a newcomer to your group. And while I have long followed your work with keen interest—especially the tireless efforts of Laura Westra to raise the concept of 'global ecological integrity' to the level of recognition it deserves (Westra 1994, 2016)—I hope you will bear with me if I am not fully conversant with the kind of discourse and terminology which the insiders among you may take for granted.

Thirdly—and that is a real handicap—I happen to be an international lawyer. Even though I shall try to be as interdisciplinary as I can, my *déformation professionnelle* will inevitably shine through as I proceed. And since we are not very far here from the Law Faculty of Munich University, let me take this opportunity to dedicate my presentation today to the memory of someone whom many of my colleagues consider as the founding father of International Environmental Law as an academic discipline in Germany, and perhaps even worldwide: Karl Alexander Neumeyer, who taught international law at the University of Munich from 1901 to 1933 (Sand 2012, p. 185; Sand 2015, p. vii).

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Of course, the term 'environmental law' (*Umweltrecht*) did not even exist in German legal language at that time. Yet, Neumeyer's monumental four-volume treatise on what he called 'international administrative law' (*Internationales Verwaltungsrecht*) assembled and analysed a unique compendium of contemporary legal source materials that would indeed qualify today as typical 'transnational environmental law'. Chapter 8 in volume 2 of his treatise, first published in 1922, was thus titled 'natural resources and products' (*Naturkräfte und Naturerzeugnisse*; Neumeyer 1922). It dealt with internationally shared water resources and water power; the transboundary regulation of mineral resources, agriculture, forestry, hunting and fishing; and the management and conservation of marine living resources.

Neumeyer tragically did not live to see his pioneering work generally accepted. He was of Jewish ancestry; when the Nazi regime took over in Germany, he was forced into retirement, and barred from working with the Hague Academy of International Law (where he had first lectured in 1923) and the *Institut de Droit International* (which had elected him to full membership in 1926). Ultimately, when he was notified of the impending eviction from his family home and the confiscation of his precious private library, he and his wife decided to commit suicide in July 1941—almost exactly 75 years ago (Morgenthau 1941; Wehberg 1941; Gutzwiller 1947; Vogel 1970; Vogel 2001; von Breitenbuch 2013). There is a memorial tablet for them outside their former home (at Königin-Str. 35a, just around the corner from here); and in 2008, the Munich Law Faculty (whose dean Karl Neumeyer had been in 1931–1932) named the building that houses its Institute of International Law (which he had helped to create, at Veterinär-Str. 5, close by) in his honour and memory.

Let me now turn to the substance of my chosen topic, 'accountability for the commons'. There has been an extraordinary renaissance of the commons debate in recent years, both at the national and the international level, and over a wide range of disciplines—all across economics, political science, sociology, anthropology, ecology, ethics, and the law (Buck 1998; Vogler 2012; Wall 2014); and all the way from Garrett Hardin's classic essay (Hardin 1968) and the work of Nobel Laureate Lin Ostrom (Ostrom 1990),[1] to the valiant drafting efforts of Stefano Rodotà and his *benecomunisti* (Rodotà 2013; Mattei 2015; Capra and Mattei 2015, pp. 149–168).

To narrow down that somewhat intimidating spectrum of scholarship, however, I propose to focus on two issues of particular concern to me:

- How do the Earth's global commons fit into the contemporary world of sovereign States? and

[1]The German synonym of Ostrom's concept of the 'commons' is either the medieval term *Allmende* (Ostrom 1999, reminiscent also of Scandinavian *allemansrätt*) or in modern usage *Gemeingüter* ('common goods'; Ostrom 2011). By contrast, the interdisciplinary research scope of the Bonn-based *Max-Planck-Institut zur Erforschung von Gemeinschaftsgütern* (translated as 'collective goods') includes both environmental and economic/financial aspects of governance.

- How can sovereign States be held accountable for the ecologically sound management of our global commons?

2 Global Commons and Sovereign Prerogatives

The standard legal textbook definition of the global commons is invariably a negative one: i.e., areas or resources that are *not* subject to the exclusive territorial sovereignty of States (Kish 1973; Wolfrum 1984; Cleveland 1990; Tomuschat 1993; Stone 1993; Durner 2001; Joyner 2001), such as the high seas, the seabed below them and the atmosphere above them; Antarctica[2]; outer space; and possibly the electromagnetic radio-spectrum and the geostationary satellite orbit (Kiss 1982, pp. 145–151, 157–160).[3] In a way, that spatial perspective reflects the prevailing 'territorial obsession' of international lawyers ironically diagnosed by Scelle (1958), or the less benign 'spatial ontology' postulated by Schmitt (1997, Minca and Rowan 2015); or—*magari*—the 'territorial imperative' which could well be part of our ancient genetic heritage from the animal kingdom (Ardrey 1966; Khan 2012). Be that as it may, the fact remains that even in domains long identified as *res communes omnium*, national governments have already secured enclosures (e.g., via the 'sovereign rights' of coastal States, under the UN Convention on the Law of the Sea, in the 200-mile exclusive economic zone and up to a 350-mile continental shelf margin); maintained old sovereignty claims (e.g., the temporarily 'frozen' territorial claims by seven States in Antarctica, some of which are overlapping); or raised potential new issues of access and benefit (e.g., commercial exploitation of mineral resources on celestial bodies).[4]

[2]Schrijver (2016) includes both polar regions in this context, though noting the continuing (and partly conflicting) territorial claims of the four Arctic countries.

[3]Article 44(2) of the ITU Constitution 1992 recognizes radio frequencies and the geostationary-satellite orbit as "limited natural resources" to which all countries shall have equitable access; see Ryan (2004); Lyall (2011), pp. 127–191, 245–256; von Schorlemer (2012), p. 826.

[4]The U.S. *Space Resource Exploration and Utilization Act* 2015, while affirming that "by the enactment of this Act, the United States does *not* thereby assert sovereignty or exclusive rights of jurisdiction over, or the ownership of, any celestial body" [emphasis added], goes on to stipulate that "a United States citizen engaged in commercial recovery of an asteroid resource or a space resource under this chapter shall be entitled to any asteroid resource or space resource obtained, including to possess, own, transport, use and sell the asteroid resource or space resource obtained in accordance with applicable law, including the international obligations of the United States". Similar legislation is now under preparation in Luxembourg (host country of the *Société Europé enne des Satellites* and several other aerospace companies), according to a Government press release of 3 February 2016 ("development of a legal and regulatory framework confirming certainty about the future ownership of minerals extracted in space from Near Earth Objects such as asteroids", "in full consideration of international law" and "without damaging natural habitats"). For background see Lyall and Larsen (2009), pp. 175–197; Lee (2012), Lewis (2014), MacWhorter (2016).

True enough, the exercise of State powers in those domains has also been tempered by concepts of international community interest, such as 'common heritage' (Taylor and Stroud 2013), and 'common concern'.[5] By and large, however, powerful States have persistently and successfully defended their customary sovereign prerogatives against most attempts at reining them back (Milun 2011).

A pertinent recent example is the ongoing discussion on protection of the atmosphere in the UN International Law Commission (ILC). Lawyers, economists and scientists alike have long categorized the atmosphere as 'true global commons' (Obama et al. 1991, p. 1536; Soroos 1997; Soroos 1998; Vogler 2001; Harrison and Matson 2001; Wustlich 2003; Halfmann 2012; Coghill et al. 2012; Everard et al. 2013). After preliminary discussions in 2011–2012, the ILC inscribed the topic on its programme of work in 2013 and appointed Professor Shinya Murase (Sophia University/Tokyo) as Special Rapporteur. In a first syllabus, he had boldly envisaged "a comprehensive set of draft articles for a framework convention on the protection of the atmosphere" (Murase 2011, p. 317; and Murase 2012), along the lines of part XII of the 1982 UN Convention on the Law of the Sea (protection and preservation of the marine environment).

From the beginning, however, there was considerable opposition to this approach on the part of Commission members from the 'Big Five' (the permanent member countries of the UN Security Council), whose diplomatic representatives had already criticized Murase's proposal during debates in the General Assembly's Sixth Committee in 2011, suggesting either that it was "too technical" for the ILC, or that there was no need for codification in this field at all (UNGA 2011). Even though the Rapporteur went out of his way to reaffirm the principle of sovereignty of States over their national airspace, the sheer prospect that the proposed draft articles would also apply to "certain activities on the ground within a State's territorial jurisdiction" (Murase 2011, p. 318) was evidently enough to raise instant political alarm among what Philip Allott calls "the international *Hofmafia*" of lawyer-diplomats (Allott 2002, p. 384, borrowing a term from Wheatcroft 1996, p. 248; see also Koskenniemi 2005, p. 336). As a result, after non-public deliberations in the ILC Planning Committee, the Commission adopted a highly restrictive 'Understanding', reading (ILC 2013, p. 115, para. 168):

(a) Work on this topic will proceed in a manner so as not to interfere with relevant political negotiations, including on climate change, ozone depletion, and long-range transboundary air pollution. The topic will not deal with, but is also without prejudice to, questions such as liability of States and their nationals, the polluter-pays-principle, the precautionary principle, common but differentiated

[5]Note, however, that the 'common concern of humankind' acknowledged in the preamble of the UNFCCC (1992) (reaffirmed in the preamble of the 2015 Paris Agreement) does *not* refer to the atmosphere or climate as such, but to "change in the Earth's climate and its adverse effects" (Brunnée 2007, p. 565). By contrast, the IUCN Draft Covenant (IUCN 2015, Article 3) more generally refers to "the global environment" as "a common concern of humanity".

responsibilities, and the transfer of funds and technology to developing countries, including intellectual property rights.
(b) The topic will also not deal with specific substances, such as black carbon, tropospheric ozone, and other dual-impact substances, which are the subject of negotiations among States. The project will not seek to "fill" the gaps in the treaty regimes.
(c) Questions relating to outer space, including its delimitation, are not part of the topic.
(d) The outcome of the work on the topic will be draft guidelines that do not seek to impose on current treaty regimes legal rules or legal principles not already contained therein.
(e) The Special Rapporteur's Reports would be based on this understanding.

These perplexing amputations of the Rapporteur's mandate prompted consternation and severe criticism not only by external academic commentators (Plakokefalos 2013; Lode et al. 2016, p. 32; Sand and Wiener 2016, pp. 208–216), but also from ILC members, who did not hesitate to characterize the unprecedented 'understanding' as a "disgrace to the Commission" (Candioti 2014, p. 7), wondering whether it had been "purposely designed to bog down the work on the topic" (Peter 2015, p. 12). Yet, at the 67th session in 2015, the ILC Drafting Committee went one step further by insisting that the terms of the 'understanding' be moved from the preamble to the operative body of the draft guidelines (ILC 2015, p. 33). Conversely, the Committee rejected Murase's proposal to proclaim the protection of the atmosphere a "common concern of humankind" in draft guideline 3, and instead settled for the seemingly innocuous formula "pressing concern of the international community as a whole" in a mere preambular paragraph, explaining the expression "as a factual statement, and not a normative statement" (ILC 2015, pp. 22–26). Drafting work will continue at the 69th ILC session in 2017, though, and hope remains that the project—even with (or in spite of) its torso of a mandate—may still be able at least to redress some of the dysfunctions of the fragmented 'regime complex' (Keohane and Victor 2011) of the global atmospheric commons.

3 Towards Public Trusteeship for the Commons?

But let us come back to Earth. As Louis Sohn at Harvard Law School used to say, international lawyers need to be like giraffes: They may have their heads in the clouds, but they should have their feet on the ground.[6] Hence, for an international legal regime to be viable and effective, it would also have to be actionable in court.

[6]Which prompted *Philip Allott* in turn to declare himself a "legless giraffe" (Scobbie 2005, p. 313).

Yet, as the ILC experience demonstrates, the chances of global community interests being defended by way of traditional inter-state remedies—such as adversarial litigation before international tribunals, or countermeasures by States not directly affected—are remote. Well before its current tergiversations over protection of the atmosphere, the International Law Commission had relegated the enforcement of *erga omnes* obligations to "the further development of international law", in a controversial savings clause added to its 2001 Draft Articles on State Responsibility (ILC 2001, p. 355). And in international judicial proceedings, States only rarely take the steps required to formally invoke the law of state responsibility against other States' breaches of obligations owed to the community as a whole (Brunnée 2005, p. 21; Tams 2011, pp. 383–388),—to the point where critical observers have described the *erga omnes* construct as "the wishful thinking of publicists" (Rubin 1993, p. 172).

By default, then, the task of acting as 'guardians' of environmental community interests has fallen on non-state actors (Sands 1989, p. 417). In view of their lack of standing to sue before most existing international courts, however, NGOs can only operate within national judicial systems, or alternatively through the new 'non-adversarial' accountability mechanisms established by some multilateral environmental agreements (Pitea 2005; Epiney 2006; Treves et al. 2009) and multilateral financial institutions (Van Putten 2008, pp. 66–162).

Among recent examples of this type of civic litigation for protection of the commons are:

- a judgment by the UK Supreme Court in April 2015 (reaffirmed by the High Court in November 2016), declaring the British Government in breach of the European Union's Air Quality Directive for nitrogen dioxide (NO_2) emissions (*ClientEarth v. Department for the Environment, Food and Rural Affairs* 2015; Barritt 2015; Carrington 2016);
- a judgment by a civil district court in The Hague in June 2015, ordering the Dutch Government to reduce national annual greenhouse emissions by 25% by 2020 compared to 1990 levels (*Urgenda et al. v. Ministry of Infrastructure and the Environment* 2015; Peeters 2016);
- a judgment by the Massachusetts Supreme Court in May 2016, ordering the State Government to implement existing legislation for annual limits on greenhouse gas emissions (*Kain et al. v. Department of Environmental Protection* 2016; Wood and Woodward 2016, p. 645)[7];

[7]The case (remanded to the Superior Court for a new judgment) is part of a series of *Children's Atmospheric Trust* actions brought by public interest NGOs in the United States and in several other countries.

- and last week's decisions by an administrative tribunal here in Munich, ordering the Bavarian State Government to ensure compliance with the applicable EU air quality standards for NO_2 emissions in the city (especially from diesel car emissions) by June 2017 at the latest, under threat of an administrative fine of 10,000 Euros (*Deutsche Umwelthilfe* and *Verkehrsclub Deutschland v. Ministry of Environment and Consumer Protection* 2016).[8]

All these actions in court were brought by environmental NGOs, to hold governments accountable for their failure to protect an endangered common resource—the Earth's atmosphere. They may indeed be viewed as manifestations of 'public trusteeship for the commons' (Bosselmann 2015), a concept which can be traced back almost two millennia to Roman law.[9] In modern times, the concept underwent a remarkable metamorphosis, in the form of the 'public trust doctrine' as developed in contemporary environmental jurisprudence in the United States and a number of other countries, including India and South Africa (Razzaque 2001; Van der Schyff 2013; Wood 2013); acknowledged, inter alia, in a much-quoted separate opinion by Judge Weeramantry at the International Court of Justice, affirming a "principle of trusteeship for earth resources" (*Gabcikovo-Nagymaros case* 1997, p. 106).

In very simplified language, the doctrine means that

(a) certain natural resources—regardless of their allocation to public or private uses—are defined as part of an 'inalienable public trust';
(b) certain authorities are designated as 'public trustees' to guard those resources; and
(c) citizens, as 'beneficiaries of the trust', may invoke its terms to hold the trustees accountable and to obtain judicial protection against encroachments or impairments (Sand 2004, p. 49) (Fig. 1).

In an inter-temporal context (Brown Weiss 1989; Redgwell 1999), the beneficiaries also include future generations, as postulated more than 150 years ago by Karl Marx:

> 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 caretakers, must hand it down improved to subsequent generations. (Marx 1865)

In order to enforce the terms of the public trust against the trustees, therefore, the beneficiaries (present and future) need procedural safeguards, including actionable

[8]The cases are still subject to appeal; meanwhile, further initiatives are underway for class actions in Germany along the lines of the *Children's Atmospheric Trust* cases mentioned above.

[9]According to the Institutes II.1.1 (*de rerum divisione*) and the Digest I.8.2.1 of the *Corpus Iuris Civilis* of Emperor *Justinian I.* (533 A.D., which in turn were based on vol 3 of the Institutes of *Aelius Marcianus*, c. 220 A.D.), "surely by the law of nature, the atmosphere, watercourses, the sea and hence the seashores, are common to all" (*et quidem naturali iure omnium communia sunt illa: aer, aqua profluens, et mare, et per hoc litori maris*). English translations in Sanders (1903), p. 90; and Monro (1904), vol 1, pp. 39–40.

Fig. 1 International public trusteeship

rights to know, rights to be heard, and rights of standing to challenge governmental decisions (the 'three pillars' of the *Aarhus Convention* 1998; Ebbesson et al. 2014). Significantly perhaps, current atmospheric trust litigation is not primarily about monetary compensation. What the plaintiffs seek to obtain instead are declaratory judgments,[10] establishing the responsibility of governmental trustees for their management (or mismanagement) of public trust resources, through an accounting of the trust assets (e.g., in the form of air quality inventories and emission reduction plans); or injunctive relief, such as a denial of permits for activities harming the trust resources (Wood 2009, pp. 102, 114). Hence, as distinct from retrospective liability suits (Fitzmaurice 1996; Faure and Peeters 2011; Lord et al. 2011), the focus of public trusteeship—national or international—typically is on remedies *ex ante*, which may more appropriately be categorized as measures to ensure the trustees' continuous "legal accountability for the exercise of social power" (Allott 2001, p. 336).

That, however, raises an intriguing semantic issue. While 'accountability' is a household term in the jargon of public administration and political science (Mulgan 2000; Rached 2016; Keohane 2003, p. 154; Najam and Halle 2010; Baber and Bartlett 2016; Kramarz and Park 2016), the English-language legal triad of 'responsibility/accountability/liability' has no precise equivalent in a number of other legal tongues. For example, in the Romance languages (French, Italian, Spanish, Portuguese) all three concepts are rendered by a single polyvalent term (*responsabilité, responsabilità*); the same is apparently true for the legal vocabulary of Russian and other Slavic languages, whereas in Japanese and Hebrew, 'accountability' is rendered by simple transliteration of the original English word (Sinclair 1995; Richard 2011; Dubnick 2014). German legal usage does distinguish responsibility (*Verantwortung*) from liability (*Haftung*), but the equivalent of accountability is merely approximated by terms like *Rechenschaft* or *Zurechenbarkeit* (i.e., the duty to render accounts, etymologically close to antiquated English 'reckoning', Dutch *rekenschap*, or Swedish *räkenskap*). The dilemma is illustrated in the pioneering work of Hans Jonas, *Das Prinzip Verantwortung* (Jonas 1984a), which he himself (mis)translated into English as "the imperative of responsibility" (Jonas 1984b); yet, it is clear from the original text that what he meant was not necessarily responsibility in a legal sense, but something more akin to accountability.[11]

[10] As stated by the Massachusetts Supreme Court (*supra* note 7), "declaratory judgment is appropriate here".

[11] E.g., see p. 174 of the German version, where *Verantwortung* is defined as the precondition for *Rechenschaft*.

A similar Babylonian confusion obfuscates the very concept of international trusteeship, given that the common-law trust has no direct equivalent in traditional European civil law (Fratcher 1973; Waters 1995; Hansmann and Mattei 1998). Consequently, when Woodrow Wilson's terms "sacred trust of civilization" were inserted in Article 22 of the League of Nations Covenant in 1919 (from where they moved to Article 73 of the UN Charter in 1945), they were notoriously mistranslated as "*mission sacrée*" in the official French text, and as "*heilige Aufgabe /heiliger Auftrag*" in the German version (Jacobs 2004, pp. 82, 111; Matz 2005, pp. 50, 71). And when the United States submitted a draft "World Heritage Trust Convention" to UNESCO in 1972 (Train 1972; Meyer 1976, p. 48), the 'trust' term was subsequently deleted from the final text because it was considered untranslatable into French (Batisse and Bolla 2003, p. 17; Redgwell 2007, p. 268).[12] Alas therefore, an interdisciplinary perspective will also have to take into account the vicissitudes of comparative linguistics.

That did not, however, prevent the *World Heritage Convention* 1972 of the United Nations Educational, Scientific and Cultural Organization (UNESCO) from evolving towards an innovative legal regime that comes rather close to the idea of global public trusteeship (Kiss and Shelton 2007, p. 16; Benvenisti 2013, p. 329):

(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, 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,[13] or through the WHC by requesting the down-listing of a site as "world heritage in danger", or eventual de-listing ('reactive monitoring'; UNESCO 2012, s. 169–174; Litton 2011, p. 234).[14] In view of its wide transnational media attention in particular,

[12]Curiously though, the term was retained in article 15(2) of the Convention for the 'world heritage fund' (a "trust fund" in the English text, officially translated into French as "*fonds de dépot*" and into Spanish as "*fondo fiduciario*").

[13]E.g., see the decision of the Federal Court of Australia in *Friends of Hinchinbrook Society v. Minister for Environment* 1997, confirming an NGO's standing to challenge governmental decisions concerning the Great Barrier Reef world heritage site, and several other world heritage cases brought by NGOs in Australian courts (Boer and Wiffen 2006); see also the South African High Court decision in *Hout Bay Residents' Association et al. v. Entillini Concession Ltd* 2012.

[14]A critical IUCN report thus triggered action by the World Heritage Committee in the case of Australia's Kakadu National Park (Morgera 2009, p. 228). A similar down-listing scheme for endangered sites, albeit based on unilateral governmental site nominations, has been developed under the Ramsar Convention 1971, through its 'Montreux Record' created by decision VI.1/1996 of the Conference of the Parties.

the WHC down-listing practice thus evolved into an effective participatory instrument to induce compliance with the trusteeship regime (Redgwell 2002; Battini 2011; Francioni and Gordley 2013).

One generation later, the Assembly of the Food and Agriculture Organization of the United Nations (FAO) adopted its *Plant Genetic Resources Treaty* (ITPGR 2001; Raustiala and Victor 2004; Moore and Tymowski 2005), which in fact confirmed and consolidated international trusteeship status for 12 of the world's major *ex-situ* germplasm collections under the auspices of the Consultative Committee on Agricultural Research (CGIAR; see Siebeck and Barton 1992; Moore and Frison 2011):

(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/dedicated as the *corpus* of the trust, pursuant to a model "in-trust agreement" 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" (see Gotor et al. 2010);
(b) transnational access under the multilateral system is governed by a standardized materials transfer agreement adopted in 2006, which also addresses benefit-sharing issues—in somewhat uneasy coexistence with the *Biodiversity Convention* 1992 (Lochen 2007, pp. 228–229) and its *Nagoya Protocol* 2010 (Moore and Williams 2011; Chiarolla et al. 2012; Biber-Klemm et al. 2013, p. 219); and
(c) compliance is monitored by a Compliance Committee reporting to the treaty's Governing Body (ITPGR 2011). Critics have pointed out, however, that this accountability mechanism provides as yet only very limited opportunities for participation by civil society beneficiaries, represented predominantly by business stakeholders (Mooney 2011, pp. 145–148).

What is significant here is that both the UNESCO World Heritage regime and the FAO Plant Genes regime currently apply the 'global commons' label solely to resources situated *within* the territorial jurisdiction of States.[15] In fact, international trusteeship is not only quite compatible with customary territorial sovereignty, but its operation in practice necessarily relies on States exercising sovereign powers, albeit on behalf of the global community, through a kind of 'role-splitting' ("*dé doublement fonctionnel*"; Scelle 1932, pp. 54–56, 217; Scelle 1956; Cassese 1990). In this regard, there has indeed been something of a paradigm change in the perception of the sovereignty dilemma by environmentalists: The early literature of international environmental law and governance had started out from a radical iconoclastic *critique* of the 'formidable defensive concept' of permanent sovereignty of States over natural resources (Allott 1989), suspected to lurk at the roots

[15]Halewood et al. (2012); see, however, recent proposals to apply world heritage criteria also to resources in high sea areas (Abdulla et al. 2013, pp. 46–47; Freestone et al. 2016).

of many global environmental problems (Falk 1971, p. 222; [16] Sprout and Sprout 1971, p. 406; Caldwell 1973, p. 200); and from high hopes for a 'fading away', 'erosion', or 'perforation' of territorial sovereignty, as the preferred solution to those problems (Mayer-Tasch 1985; Van der Lugt 2000; Karkkainen 2004). As the subsequent evolution of global and regional lawmaking in this field demonstrated, however, 'proprietary' sovereign rights can effectively be limited and balanced by overriding 'fiduciary' or 'custodial' community norms, provided those are backed up by the necessary procedural mechanisms to hold States accountable as trustees (Sand 2004; Scholtz 2008).

Admittedly, my empirical examples are still fragmentary, and a far cry from the grand design of the less patient advocates of 'earth governance' among us. Basic questions remain, in particular, as to the most appropriate representation of an international trust's beneficiaries; i.e., present and future civil society (Bothe 2006, p. 555; Bosselmann 2015, pp. 252–257).[17] Yet, the idea of public trusteeship for the commons may rightfully be counted among Nino Cassese's 'realistic utopia' of international law (Cassese 2012; Francioni 2012, p. 443; Allott 2014), or rather the '*eutopia*' envisioned by Allott (2016).[18] And even if it were a mere 'mobilizing myth' invented by environmental lawyers (as suggested by René Dupuy 1985, p. 504; using a term coined by Georges Sorel 1908, p. 141),—a *fata morgana*, a mirage—we should perhaps keep in mind Leszek Kolakowski's alternative image of a mirage,

> which makes beautiful lands arise before the members of a caravan and thus increases their efforts to the point where, in spite of all their sufferings, they reach the next tiny waterhole. Had such tempting mirages not appeared, the exhausted caravan would inevitably have perished in the sandstorm, bereft of hope (Kolakowski 1988, p. 32).

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[16] But see Falk (1995), p. 11: "I now believe that this earlier analysis was badly mistaken in several key respects."

[17] E.g., a 'global commons trusteeship commission' as proposed by Cleveland (1993); an 'ombudsman' or 'environmental high commissioner' as proposed by Orrego Vicuña and Sohn (1997), pp. 288, 341; or global commons 'guardians', as suggested by Stone (1993), pp. 39–43, and Sands (1997), p. 83.

[18] The vision of a *eutopia futuris* goes back to Scottish town planner Patrick Geddes, in his lectures to the British Sociological Society (Geddes 1905), to describe a 'good place' of the future, a place that can be achieved through local and international cooperation, and adoption of sustainable technologies; as distinct from *utopia*, as an ideal place impossible to achieve. It also appears on one of the stained-glass windows of his Outlook Tower in Edinburgh.

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