



## International Law and the Anthropocene

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'We can't solve problems  
by using the same kind of thinking we used when we created them.'  
Albert Einstein

This *Reflection* considers some of the challenges faced by international law due to the advent of the Anthropocene.<sup>1</sup> It argues that the underlying reasons for the advent of the Anthropocene are deeply engrained in international law, in particular in international economic law and some of the trade-based mechanisms that are part of multilateral environmental agreements (MEAs). It also shows that these same underlying reasons are closely linked to the colonial legacy of international law. However, the Anthropocene might offer a unique opportunity to break with this colonial legacy. For, we now know that exporting environmental problems from the 'core' to the 'periphery', from developed to developing states, is not only morally objectionable but does not pay off. In other words, we now know that changes in the Earth's system will manifest themselves across the globe, no matter where the human activity at their origin is located. However, in order to overcome these challenges, we will have to rethink the fragmented nature of the international legal system.

### The advent of the Anthropocene

The term 'Anthropocene' denotes a new geological era in which 'many geologically significant conditions and processes are profoundly altered by human activities.'<sup>2</sup> In other words, human activities are affecting the Earth's system, which merits the naming of a new era – the Anthropocene – after the Holocene.<sup>3</sup> Large increases in human

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<sup>1</sup>Also see Davor Vidas, "The Earth in the Anthropocene – and the World in the Holocene?" (2015) 4(6) *ESIL Reflection*.

<sup>2</sup> The Working Group on the Anthropocene of the International Commission on Stratigraphy <http://quaternary.stratigraphy.org/workinggroups/anthropocene/>, accessed 03/11/16.

<sup>3</sup> The Holocene denotes a geological era starting about 11.700 years ago which is related to a period of global warming and glacial retreat (<http://quaternary.stratigraphy.org/majordivisions>, accessed 03/11/2016) and which facilitated the development of human society (Jan Zalasiewicz, Mark Williams, Alan Haywood & Michael Ellis, "The Anthropocene: a new epoch of geological time?" (2011) 369 *Philosophical Transactions of the Royal Society*, 835, 836).

population, methane production by cattle, fishing, and in the use of water, land, fossil fuels, plastics and nitrogen based fertilizer<sup>4</sup> are among the human activities contributing to, among other things, climate change, water pollution and large scale species extinction, the so-called sixth great extinction. Together these human activities contributed to the advent of the Anthropocene and are traceable in the Earth's geological strata.

The Working Group on the Anthropocene presented its provisional recommendations at the 35<sup>th</sup> International Geological Congress, held in South Africa between 27 August and 4 September 2016.<sup>5</sup> The Working Group recommends that the mid-20<sup>th</sup> century be adopted as marking the advent of the Anthropocene, with a more specific dating of the beginning of the Anthropocene also to be included in its final report, which is expected in two to three years. Subsequently, a conclusive decision on the advent of the Anthropocene, as evidenced in geological strata, will be subject to a decision-making process consecutively involving three bodies that are part of the International Union of Geological Sciences. A final decision on the naming of a new era, then, is not to be expected in the near future. Regardless of the work still to be done, the concept of the Anthropocene has entered both academic discourse and the media.

Collective human developments that have been associated with moving the world towards the Anthropocene include the development of early agricultural society, about 5000 to 8000 years ago, the Industrial Revolution, leaving its imprint in geological strata from about 1800, and the mid-20<sup>th</sup> century, the so-called Great Acceleration.

Steffen *et al.* suggest that the mid-20<sup>th</sup> century marks a period when

[t]he human enterprise switched gears after World War II. Although the imprint of human activity on the global environment was, by the mid-twentieth century, clearly discernible beyond the pattern of Holocene vulnerability in several important ways, the rate at which that imprint was growing increased sharply at mid-century. The change was so dramatic that the 1945 to 2000+ period has been called the Great Acceleration.<sup>6</sup>

Steffen *et al.* also suggest that the Great Acceleration was prompted by, among other things, the collapse of the remnants of pre-industrial society in Europe after World War II, the work of the Bretton Woods institutions and the emergence of a neo-liberal economic system.

Jan Zalasiewicz *et al.* suggest that the mid-20<sup>th</sup> century qualifies to mark the advent of the Anthropocene because the developments that arose at the time were of a global nature.<sup>7</sup> It is the global nature of these developments that distinguishes them

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<sup>4</sup> The production of nitrogen based fertilizer involves large amounts of fossil fuel in its production process by way of the so-called Haber-Bosch process.

<sup>5</sup> See press release at <http://www2.le.ac.uk/offices/press/press-releases/2016/august/media-note-anthropocene-working-group-awg>, accessed 03/11/2016. Note that the text of the report presented in South Africa was not available at the time of writing.

<sup>6</sup> Will Steffen, Jaques Grinevald, Paul Crutzen & John McNeil, "The Anthropocene: conceptual and historical perspectives" (2011) 369 *Philosophical Transactions of the Royal Society* 842, 849. Note that the authors are members of the Working Group on the Anthropocene.

<sup>7</sup> Jan Zalasiewicz, Colin N. Waters, Mark Williams, Anthony D. Barnosky *et al.*, "When did the Anthropocene begin? A mid-twentieth century boundary level is stratigraphically optimal" (2015) 383

from the development of early agricultural society and the Industrial Revolution, which had local ramifications, also in geological strata, but more gradually spread across the globe.

The advent of the Anthropocene points to several connectivities, two in particular. First, the connectivity between humans and the Earth's system: we now know that we are part of that system and may affect it, and through it ourselves. The romantic conceptualization of nature as the backdrop against which human activities take place no longer holds. Instead, human activities co-determine how the Earth's system (re)acts. Second, it points to the connectivity between humans. Human activities anywhere on Earth may affect the Earth's system and the resulting changes in that system may affect humans everywhere on Earth. In other words, we now know that it does not pay off to export environmental problems.

### **The emergence of international economic law at mid-20<sup>th</sup> century**

If indeed the mid-20th century is to mark the advent of the Anthropocene, it seems pertinent to query what happened in international law at the time.

As mentioned above, the advent of the Great Acceleration coincided with the Bretton Woods institutions beginning their work. On 1 January 1948, the 1947 General Agreement on Tariffs and Trade (GATT) entered into force. The website of the World Trade Organization (WTO) states that '[f]rom 1948 to 1994, the GATT provided the rules for much of world trade and presided over periods that saw some of the highest growth rates in international commerce.'<sup>8</sup> During the late 1940s the World Bank, originally established to finance reconstruction in post-war Europe, 'shifted its attention to the needs of its members in Latin America, Africa, and Asia. In the 1950s and 60s, the funding of large infrastructure projects, such as dams, electrical grids, irrigation systems, and roads was the Bank's primary focus.'<sup>9</sup> On 1 March 1947, the International Monetary Fund (IMF) started its operations with the aim of ensuring 'exchange rate stability and [to] encourage its member countries to eliminate exchange restrictions that hindered trade'.<sup>10</sup>

Bilateral investment treaties (BITs) also originate in the post-World War II period, even if somewhat later than the Bretton Woods institutions. In 1959, Germany concluded the first BITs with Pakistan and the Dominican Republic. Other states followed suit, with over 2321 BITs and over 2500 treaties with investment related provisions in force today.<sup>11</sup> BITs seek to protect foreign investment from what are deemed to be unwarranted host-state interferences resulting in a diminution of the value of the investment. BITs thereby foster the free flow of investment and international trade.

By 1960, the main elements of the global free trade system thus were in place, grounded in treaties establishing the GATT, the World Bank and the IMF and in BITs. By fostering international trade, these institutions contributed to unprecedented

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*Quaternary International* 196. Note that all 26 authors are members of the Working Group on the Anthropocene, which counts 38 members.

<sup>8</sup> WTO website [https://www.wto.org/english/thewto\\_e/whatis\\_e/tif\\_e/fact4\\_e.htm](https://www.wto.org/english/thewto_e/whatis_e/tif_e/fact4_e.htm), accessed 03/11/2016.

<sup>9</sup> World Bank website <http://www.worldbank.org/en/about/archives/history>, accessed 03/11/2016.

<sup>10</sup> IMF website <https://www.imf.org/external/about/histcoop.htm>, accessed 03/11/2016.

<sup>11</sup> <http://investmentpolicyhub.unctad.org/IIA>, accessed 03/11/2016.

economic growth and wellbeing for many, but also to increased emissions of greenhouse gasses from industrial activities and deforestation for human settlement, timber production or agricultural practices. The global free trade system supported by international law, then, contributed to the Great Acceleration.

Since the mid-20<sup>th</sup> century, the WTO, World Bank and IMF have become more attuned to environmental and social concerns. A plurilateral Environmental Goods Agreement is being developed within the WTO.<sup>12</sup> The World Bank adopted a new environmental and social framework in August 2016.<sup>13</sup> The IMF engages with environmental problems, climate change in particular.<sup>14</sup> However, changes in these institutions continue to be criticised for being exceedingly slow and partial, and for promoting institutional structures that support a liberal economic system only. In addition, BITs and BIT-based arbitrations continue to be criticized for being insensitive to human rights and environmental concerns.

### **International law and the ‘core’ and the ‘periphery’**

Not all profited from the economic growth fostered by the developments discussed above. A number of examples serve to illustrate how international law contributed thereto.

The history of the lack, and later limited regulation of, agricultural subsidies under the GATT, and then the WTO, provides an example. To cater to the interests of subsidised agricultural activities in Europe and the United States, world market prices for agricultural products were kept low. During the 1980s, in particular, this policy resulted in many farmers in developing countries not being able to compete, losing access to local markets and seeking other sources of income. In their search for new sources of income, farmers often moved to urban areas, where they joined the urban poor. Moreover, the toleration of subsidies stimulated the continuation of unsustainable agricultural practices in Europe and the United States. More recently, unregulated by international law, foreign companies gain control over large areas of land, including water, in developing countries to produce food and inputs for bio-fuels for their home or world markets. These activities, often referred to as land grab or natural resources grabbing, again lead to the displacement of local farmers and promote unsustainable agriculture practices in developing countries. Also relevant are the conditionalities related to privatisation of the public sector imposed by the World Bank and the IMF. Especially during the 1990s, conditionalities related to privatization of the water sector opened the water market in developing countries to multinational water companies. As a result, in a number of cases, water prices increased and safe drinking water became unavailable to the poor and compromised their health. BITs have been characterized as

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<sup>12</sup> International Center for Trade and Sustainable Development, “Environmental goods agreement negotiators agree roadmap for conclusion”, 4 August 2015, available at <http://www.ictsd.org/bridges-news/biores/news/environmental-goods-agreement-negotiators-agree-roadmap-for-conclusion>, accessed 03/11/2016.

<sup>13</sup> See <http://web.worldbank.org/WBSITE/EXTERNAL/PROJECTS/EXTPOLICIES/EXTSAFEPOL/0,,menuPK:584441~pagePK:64168427~piPK:64168435~theSitePK:584435.00.html>, accessed 03/11/2016.

<sup>14</sup> See <http://www.imf.org/external/np/fad/environ/index.htm>, accessed 03/11/2016.

having ‘a chilling effect’ on host states applying human rights or environmental standards to foreign companies protected by them.<sup>15</sup>

The examples referred to above illustrate that international economic law after World War II continued to facilitate the persistence of the divide between the ‘periphery’ and the ‘core’.<sup>16</sup> Perhaps, this divide is even more deeply entrenched in international law than the factors that gave rise to the Anthropocene. It can be traced to the 1494 Treaty of Tordesillas by way of which Portugal and Spain divided the ‘New World’ amongst themselves with the aim of securing control over ‘new’ territories and their natural resources. Grotius’ 1609 *Mare Liberum* continued this trend. It advocated the freedom of the high seas and occupation, as opposed to discovery, as the basis for obtaining title to non-European territories. Its aim was to secure unimpeded trade on the world’s oceans and access to territories and resources beyond Europe for the Netherlands and its East India Company. These demands were in opposition to claims to vast ocean areas and territories by Portugal, Spain and England, based in part on discovery. Moreover, during the 19<sup>th</sup> century, imperialism, based on colonialism and other forms of control over foreign territory, was at its height, illustrated by the 1885 Final Act of the Berlin Conference, which among other things established how European states could take possession of African territories, and thus their resources.

The link between the three periods referred to above is striking, as is the continuity of that link with contemporary international economic law. We seem to be confronted with a system of international (economic) law that facilitates the free flow of natural resources and the benefits of cheap labour, including potential consumers, from the developing world to Europe, and later also North America, or from the ‘periphery’ to the ‘core’. In this process, problems, including environmental problems, were exported from the ‘core’ to the ‘periphery’, as the examples discussed above illustrate.

Problems also have been exported from the ‘core’ to ‘the periphery’ by environmental treaties, including through the trade-based mechanisms that are part of some MEAs. During the early 1900s, treaties sought to protect wild animals in Africa in order to meet demand from the ‘core’ for, among other things, feathers and wild game. These treaties also excluded the local population from taking the protected species, on which many depended for their subsistence. The link between these early environmental treaties and contemporary international environmental law is striking. Under the Kyoto Protocol, production-based greenhouse gas accounting, as opposed to consumption-based accounting, induced developing states, which are not subject to emission reductions under the Protocol, to continue to engage in industrial processes emitting relatively high levels of greenhouse gases while the resulting products are exported to developed states.<sup>17</sup> Moreover, some of these production processes received financial benefits available through the Kyoto Protocol’s Clean Development

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<sup>15</sup> Press release, “UN experts voice concern over adverse impact of free trade and investment agreements on human rights”, 20 June 2015, available at <http://www.ohchr.org/EN/NewsEvents/Pages/DisplayNews.aspx?NewsID=16031>, accessed 03/11/2016.

<sup>16</sup> See contributions to Clive Hamilton, Christophe Bonneuil and François Gemenne (eds), *The Anthropocene and the Global Environmental Crisis* (Routledge 2015).

<sup>17</sup> On greenhouse gas accounting see Steven J. Davis & Ken Caldeira, “Consumption-based Accounting of CO<sub>2</sub> Emissions” (2010) 107(12) *PNAS*, available at <http://www.pnas.org/content/107/12/5687>, accessed 03/11/2016.



Mechanism.<sup>18</sup> As a result, responsibility for the reduction of greenhouse gasses has become fudged. Moreover, prior informed consent procedures in some MEAs seem to aim at facilitating trade in hazardous substances, with restrictions on trade in these substances being subject to arduous decision-making procedures.<sup>19</sup> These procedures are difficult to comply with by those who do not possess the know-how or financial means to engage in them meaningfully. The result is market access for the goods in question, including hazardous chemicals and pesticides as well as living modified organisms.

### **Human rights law and international environmental law**

Developments in human rights law, also originating in the mid-20<sup>th</sup> century, and in contemporary international environmental law, originating in the 1970's, have not been able to overcome the situations discussed above. Due to the fragmented manner in which international law is developed and applied, these two bodies of law tend to be 'weak siblings', compared to international economic law and to trade-based mechanisms in MEAs. International organizations, such as the WTO, World Bank and IMF, do not apply human rights law or international environmental law. Instead, they apply their own internal rules, which may or may not reflect human rights law or international environmental law. WTO case law illustrates how the Appellate Body increasingly incorporates environmental concerns into its decisions and how its mandate limits it in doing so, requiring it 'to preserve the rights and obligations of Members under the cover agreements'.<sup>20</sup> Similarly, BIT-based arbitration procedures apply BITs and related customary law, but not necessarily human rights law or international environmental law. Moreover, trade-based mechanisms in MEAs do not necessarily apply human rights law, such as the right to health, or principles of environmental law, such as the prevention or precautionary principles.

The above entails that changes in human rights law or international environmental law will not necessarily be integrated into international economic law or into the trade-based mechanisms that are part of some MEAs. At best, their integration into international economic law and these mechanisms will be piecemeal and take lengthy periods of time. Fragmentation, then, is a problem.

### **Conclusion**

The advent of the Anthropocene highlights that humans are part of the Earth's system. It should also make us aware that exporting environmental problems from the 'core' to the 'periphery' does not pay off. Might the Anthropocene also make us aware that our disjointed system of international law requires rethinking? If the fragmented nature of the international legal system has facilitated the advent of the Anthropocene by enabling international economic law and trade-based mechanisms in MEAs to proceed independently from human rights law and international environmental law, then we must find ways of overcoming fragmentation. I suggest that asking ourselves how distinct

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<sup>18</sup> For information see <https://cdm.unfccc.int/>, accessed 03/11/ 2016.

<sup>19</sup> E.g. the 2000 Cartagena Protocol to the Convention on Biodiversity, and the 1998 Rotterdam Convention on the Prior Informed Consent Procedure for Certain Hazardous Chemicals and Pesticides in International Trade.

<sup>20</sup> Art 3(2), WTO, Understanding on Rules and Procedures Governing the Settlement of Disputes.

areas of international law, including international environmental law, relate to the Anthropocene does not provide a sufficient way forward. Instead, we should be asking ourselves how international law as a whole relates to the Anthropocene, and in doing so identify linkages between various bodies of international law in the Anthropocene. In other words, the principle of systemic integration is relevant beyond the activities of courts and tribunals. Importantly, given the overlap between elements of international law that facilitated the advent of the Anthropocene and those that mark its colonial legacy, overcoming fragmentation may also enable us to begin to address the colonial legacy of international law.