
1. Intergenerational justice, water rights, and climate change

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INTRODUCTION

In 1992, the Union of World Scientists (numbering 1500) issued a first ‘Warning to Humanity’ which stated that ‘great change in our stewardship of the Earth and the life on it is required, if vast human misery is to be avoided’. They called for stabilization of the world’s population, substantial reduction of greenhouse gas emissions, the phasing out of fossil fuels, reducing deforestation, and resisting destruction of biodiversity. On a recent silver jubilee of that warning, the same Union issued a second warning (signed by 150,000 scientists) summoning urgent action now.¹

¹ William J Ripple and others, ‘World Scientists’ Warning to Humanity: A Second Notice’ (2017) 67(12) *BioScience* 1026, 1028. The Second Warning calls for a 13-point agenda as follows:

Sustainability transitions come about in diverse ways and all require civil-society pressure and evidence-based advocacy, political leadership, and a solid understanding of policy instruments, markets, and other drivers. Examples of diverse and effective steps humanity can take to transition to sustainability include (not in order of importance or urgency):

- 1) prioritizing the enactment of connected well-funded and well-managed reserves for a significant proportion of the world’s terrestrial, marine, freshwater, and aerial habitats;
- 2) maintaining nature’s ecosystem services by halting the conversion of forests, grasslands, and other native habitats;
- 3) restoring native plant communities at large scales, particularly forest landscapes;
- 4) rewilding regions with native species, especially apex predators, to restore ecological processes and dynamics;
- 5) developing and adopting adequate policy instruments to remedy defaunation, the poaching crisis, and the exploitation and trade of threatened species;
- 6) reducing food waste through education and better infrastructure;
- 7) promoting dietary shifts towards mostly plant-based foods;
- 8) further reducing fertility rates by ensuring that women and men have access to education and voluntary family-planning services, especially where such resources are still lacking;
- 9) increasing outdoor nature education for children as well as the overall engagement of society in the appreciation of nature;
- 10) divesting of monetary investments and purchases to encourage positive environmental change;
- 11) devising and promoting new green technologies and massively adopting renewable energy sources, while phasing out subsidies to energy production through fossil fuels;
- 12) revising our economy to reduce wealth inequality and ensure that prices, taxation, and incentive systems take into account the real costs which consumption patterns impose on our environment; and

Everyone currently alive is in the grip of the Anthropocene, whether one chooses to know about it or not. The Earth science evidence is overwhelming: small islands and peoples succumb to fluctuations in the rising sea levels, glaciers melt, desertification advances, forest cover is reduced to a bare minimum, so-called natural disasters and catastrophes regularly occur with predictable human and social adverse impact and distress, and potable water is expected to diminish substantially by 2030. The Anthropocene may soon be recognized by geologists and Earth scientists as a ‘human age’ but the scale of anthropogenic harm is already clear to scientists and many new social movements.

The extent of such harms is fully recognized in the 2015 UN Paris Agreement, and the 2030 Agenda for achieving the sustainable development goals. It is further recognized that the discourse of climate change goes beyond the state and must address markets and people, which is yet to occur, through a global agenda for what is termed corporate social responsibility and for a climate change education. The Paris Agreement² and Agenda 2030³ both emphasize the importance of education, which probably merges with the human rights education agendum declared by the UN.

Of course, the agendum is vast, and the resultant dilemmas are intimidating. The first dilemma consists in horror versus nostalgia. The question is whether to regard the advent of the Anthropocene as an apocalypse or a great opportunity for concerted action. The ecomodernist agenda, for example, celebrates the theology of a ‘good Anthropocene’.⁴ On the other hand, there is a view that there is no ‘bouncing back’ back to an earlier era:

the Earth system is now operating in a different mode and nothing we can do now, even ending the burning of fossil fuels in short order, can get it to ‘bounce back’ to the Holocene. It will never look like the Holocene again, so arguments based on Holocene conditions are simply misleading. Whatever its validity at a local level, the ecomoderns’ ecosystem thinking has been superseded by Earth system thinking and applying it to the Anthropocene is akin to making Newtonian arguments about a quantum world.⁵

The second dilemma is perhaps best referred to as the gradations problem. Should we make some fine divisions between what has been called ‘dangerous climate change’ and others that are medium and long term? Does anthropogenic global warming lend

13) estimating a scientifically defensible, sustainable human population size for the long term while rallying nations and leaders to support that vital goal.

Accessed at <http://scientistswarning.forestry.oregonstate.edu/>.

² Paris Agreement, Paris, 12 December 2015, in Report of the Conference of the Parties to its Twenty-First Session, UN Doc FCCC/CP/2015/10/Add.1, Preamble, arts 11.2, 12.

³ Sustainable Development Goals and Targets, in UN General Assembly Resolution 70/1, Transforming our World: The 2030 Agenda for Sustainable Development, UN Doc. A/RES/70/1 (2015), goal 13.3.

⁴ See, John Asafu-Adjaye and others, ‘An Ecomodernist Manifesto’, accessed at www.ecomodernism.org/manifesto.

⁵ Clive Hamilton, ‘The Theodicy of the “Good Anthropocene”’ (2015) 7 Environmental Humanities 233.

itself to such classifications for action or must these be seen holistically as requiring urgent social action on all fronts?

Third is the dilemma of empowering actions by states and civil society. Is reform of state rationality that emancipates it from fossil fuel capitalism required, or recognition of the voice of the demos through peaceful insurrection against anthropogenic harms and a shift to alternative lifestyles that seek to avoid such harms? In other words, is there a social life beyond the state that should be captured? Or should prescient global social change action always emanate from state rationality reform?

Fourth, of course, is the reform of human rationality itself: how is one to achieve a just society, or produce and reproduce fair and just social cooperation between co-nationals and non-nationals within and across the globe? Is it possible to achieve a just society that aims to preserve the mutually reinforcing relationship between all species and protects biodiversity leading to planetary loyalty through the multilevel processes of global governance? Or is this to be attained primarily through the constitution and law of domestic states through the social action of global to local communities? In short, how is an Earth jurisprudence to be conceived?

Fifth (without being exhaustive), is the issue of reframing law, jurisprudence, and demoprudence:⁶ Are these simply going to perform the task of sculpting new hegemonies or somehow (even in the now proclaimed ‘endtimes’ of human rights⁷) create instruments to facilitate a new resilience through climate change global social action?

A. ACCESS TO WATER AND WATER-BASED RESOURCES

The advent of the Anthropocene may be said to have diverted the attention of theories, practices, and movements of global social change from the global to local, access and use of water present distinctive profiles of diversity in local settings which deserve equal attention. Overall, the global, supra-national, regional, national, sub-regional, and the local accentuate the need to learn more about the ‘epistemologies’ of water, or the complex and contradictory relations between water, knowledge, power, law, and justice.⁸ In addition, the growth of ‘multiple’ (and, one may add, ‘multiplex’) demands for ‘global’ water resources ‘is expected to increase in the future’ and the historical focus on ‘increasing supply of water to different economic sectors’ will simply not do in the Anthropocene ‘without proper consideration for the role of water in sustaining the services of terrestrial and aquatic ecosystems’. Sustainability considerations have to incorporate ‘both short term direct use and longer-term sustainability of these services’ and ‘place demand-related studies at the forefront of water management plans, through

⁶ Upendra Baxi, ‘Demoprudence and Socially Responsible/Response-able Criticism: The NJAC Decision and Beyond’ (2016) 9(3-4) NUJS L Rev153.

⁷ Stephen Hopgood, *The Endtimes of Human Rights* (Cornell University Press 2013).

⁸ See Ravi Baghel and others (eds), *Water, Knowledge, and the Environment in Asia: Epistemologies, Practices, and Locales* (Routledge 2017).

an emphasis on efficient management of global water resources'.⁹ Furthermore, there is the concern about the human right to water, which presents multiple anxieties.¹⁰

B. INTERGENERATIONAL JUSTICE

Intergenerational justice has a varied genealogy. The question to consider is whether and to what extent its study is relevant to what I have called climate change justice theory,¹¹ but I now name Anthropocene justice theory. This, in turn, raises the further question as to how far, if at all, is previous theorizing about justice critically relevant to Anthropocene justice theory.

In contemporary theories of justice, intergenerational justice did not exist as such until the advent of postcolonial constitutionalism (to which India in the 1950s made an early and germinal contribution). The questions before the Constituent Assembly of India entailed consideration of the conception of time itself, something to which it accorded insufficient attention. However, at least in terms of duration there was some discussion as to how long India should continue with the constitutional innovation of reservations in legislatures (renewed every decade since independence by constitutional amendments). There was a similar, still ongoing, discussion about reservation/dereservation in education and employment in state institutions and facilities. But these discussions did not adequately theorize intergenerational justice, partly due to which women's reservation bills are still languishing in parliament. Access to justice emerged

⁹ Elizabeth Curmi and others, 'Balancing the Needs of All Services Provided by Global Water Resources' in Anik Bhaduri and others (eds), *The Global Water System in the Anthropocene* (Springer International 2014) 15. See also, HHG Savenije and others, 'Evolving Water Science in the Anthropocene' (2014) 18 *Hydrol Earth Syst Sci* 319; UN, *Managing Water under Uncertainty and Risk: The United Nations World Water Development Report 4* (UNESCO 2012); Martin Falkenmark and Johan Rockström, *Balancing Water for Humans and Nature: The New Approach in Ecohydrology* (Earthscan 2004).

¹⁰ Upendra Baxi, 'Marginal Remarks Regarding Water Policy Regimes; Governance Rights Justice and Development: An Epilogue' in Philippe Cullet and others (eds), *Water Governance in Motion: Towards Socially and Environmentally Sustainable Water Laws* (Cambridge University Press 2010) 510; Ramaswamy R Iyer, *Towards Water Wisdom: Limits, Justice, Harmony* (Sage 2007); Upendra Baxi, 'The Human Right to Water: Policies and Rights' in Ramaswamy R Iyer (ed), *Water and the Laws in India* (Sage 2009) 149.

¹¹ Upendra Baxi, 'Towards a Climate Change Justice Theory?' (2016) 7(1) *Journal of Human Rights and the Environment* 7. Burns Weston has summated the principal difficulties and objections to the very idea of intergenerational justice: see, Burns H Weston and David Bollier, *Green Governance, Ecological Survival, Human Rights, and the Law of the Commons* (Cambridge University Press 2012) ch 2; see also, Alan Boyle 'Human Rights and the Environment: Where Next?' (2012) 23(3) *European Journal of International Law* 613.

as a constitutional value¹² but the administration of justice in India continues to handle disputes filed in previous generations in this generation!¹³

In contrast, affirmative action in the United States has been a subject of much theorizing in relation to justice. Most notable is, of course, the justice theory of John Rawls, who in his insinuation of the 'difference principle' asserted that the problem of justice is not merely the realm of liberty, equality, and fairness but goes beyond to justification of inequality in distribution. As we recall, Rawls insisted that the distribution of inequality is unjust if it does not contribute to the expectations of the worst-off in the society.¹⁴ The conception of intergenerational justice stands in principle referred to three generations.¹⁵

The conception emerged differently in international law. One set of stirrings were signified by Ambassador Pardo's stunning invocation of the common heritage of mankind. The common heritage of mankind has several promises and it served well in the early emergence of UNCLOS¹⁶ (and has served well in judicial decisions and arbitral awards pertaining to freedom of the seas).¹⁷ The common heritage of mankind has also been progressively developed by the International Law Commission.¹⁸

¹² Upendra Baxi, 'Spheres of Access to Justice, and of Territoriality: The Many Splendored Contributions of Ms. Sailabala Pujari' (Public lecture delivered at National Law School University Odisha, Cuttack, June 2016).

¹³ See, Sejal Worah and others, *India's Forests and the Judiciary: The Godavarman Story* (Enviro Legal Defence Firm and World Wildlife Fund for Nature, Printworks 2009); Ayesha Dias, 'Judicial Activism in the Development and Enforcement of Environmental Law: Some Comparative Insights from the Indian Experience' (1994) 6(2) *Journal of Environmental Law* 243; Geetanjoy Sahu, *Environmental Jurisprudence and the Supreme Court: Litigation, Interpretation and Implementation* (Orient BlackSwan 2014); Puja Sondhi, 'Tribal Rights in Scheduled Areas: The Samatha Case Revisited' (2002) 2(1) *Indian Journal of Environmental Law* 92.

¹⁴ John Rawls, *A Theory of Justice* (Harvard University Press 1971); John Rawls, *Political Liberalism* (Columbia University Press 1973); John Rawls, *Law of Peoples* (Harvard University Press 1999). Also see, Huw Lloyd Williams, *On Rawls, Development, and Global Justice: The Freedom of Peoples* (Palgrave Macmillan 2011).

¹⁵ Melissa S Williams, 'Justice toward Groups: Political Not Juridical' (1995) 23(1) *Political Theory* 67.

¹⁶ RP Anand, *Legal Regime of the Sea-Bed and the Developing Countries* (Thomson Press 1975); RP Anand, *Origin and Development of the Law of the Sea: History of International Law Revisited* (Martinus Nijhoff 1982).

¹⁷ Bimal N Patel, *Law of the Sea* (Eastern Book 2015).

¹⁸ But see, Scott J Shackelford, 'The Tragedy of the Common Heritage of Mankind' (2009) 28 *Stanford Environmental Law Journal* 109: The working elements of this concept are readily listed even though there is no universal and binding definition of what constitutes the common heritage of mankind (CHM) principle. The CHM principle wavers between the notions of *res nullius* and *res communis*. But such a definition would at least include five elements. First, there can be no private or public appropriation; no one legally owns common heritage spaces ... Second, representatives from all nations must manage resources since a commons area is considered to belong to everyone. Therefore, governments are relegated to the role of representing their people. As popular management is practically unfeasible, a special agency to coordinate shared management must administer commons spaces in the name of all mankind ... Third, all nations must actively share with each other the benefits acquired from exploitation of the resources from the commons heritage region. Private entities seeking profits would have to

The second sustained impetus begins with, and has been developed since, the Brundtland report. Its paradigm of sustainability – as compared to sustainable development, which is after all a policy tool – still exerts a great deal of influence, especially in various aspects of development as growth. The interesting question is whether the concept of intergenerational justice emerged with the conceptions of ‘sustainability’. It appears at first sight that the concept was initially intra-generational but had the potential to extend to three generations. In this sense, intergenerational justice presented itself as akin to affirmative action discourse.

A third site arose briefly in the discussion of ethical and moral aspects of population planning. The right to life movement concerned the ethical status of embryonic forms of life and theories of ‘self’ also made an appearance. The implication of the right to life movement (which was partly religious in origins and development) lay in the question whether anyone was entitled to limit the right of membership (the right to be born) or to determine the number of the species.

A fourth site stands furnished in the question: where one can draw notions or images of intergenerational justice is the area of *erga omnes* and *jus cogens* doctrines in international law, as partly codified in the Vienna Convention on the Law of Treaties? These notions have also impacted the notions of ‘core’ human rights. Allied to this development, international humanitarian law has developed some absolute prohibitions under the banners of the Grotian *temperamenta belli*, which are even applicable and extend to modern warfare.

These are very rich discourses in their own contexts. When extended to Anthropocene justice theory many questions arise:

1. Does one study the evolution and application of these principles and doctrine with a view to adopt these to Anthropocene justice theory?
2. Does one do so selectively? or
3. Discard them altogether, entailing novel approaches? What may be the costs to knowing in each case? Clearly, Anthropocene justice theory must concern itself much beyond three generations; indeed (as I have said elsewhere) it engages the problem of *infinite generations of species, including the human*. The ethical problems (referred to above) stand much larger than the right to life movements and population planning. But, in a word, the problem of Anthropocene justice theory is that of interspecies solidarity, resisting all forms of anthropomorphism.¹⁹

perform a service that benefited all of mankind. Equitable distribution is intrinsic to the principle, but the application is ambiguous, necessitating a balance between economic benefit-sharing and environmental protection. Fourth, there can be no weaponry or military installations established in commons areas. Armed conflict is unlawful in the commons since every nation has a stake in maintaining the peace. Fifth, the commons should be preserved for the benefit of future generations, and to avoid a “tragedy of the commons” scenario’. This has now been reconceptualized as ‘common concern of humanity; see, Dinah Shelton, ‘Common Concern of Humanity’ (2009) 39(2) Environmental Law and Policy 83.

¹⁹ Anna Gear, ‘Deconstructing Anthropos: A Critical Legal Reflection on “Anthropocentric”: Law and Anthropocene “Humanity”’ (2015) Law and Critique 1.

C. INTERNATIONAL ENVIRONMENTAL LAW AND ANTHROPOCENE JUSTICE THEORY

The second question I wish to consider is the interpretation accorded to inter-generational justice in the evolving international environmental law regimes. International environmental law has varied justice approaches. Clearly, unjustified and unjustifiable inequality in access to the human rights to life and liberty count as unjust: environmental racism, the most extreme forms of which are represented by various apartheid, is now considered unacceptable. The same applies to ecological vulnerability as a form of social discrimination against the socially vulnerable – the condition of human rightlessness imposed by persistent denials of the rights to food, water, clean air, shelter and housing, and health.

Theoretically, as John Rawls identified in his difference principle, the issue is not of inequality per se but that of justified inequalities from the standpoint of the worst-off and their expectations of justice from the social order. But as international environmental law approaches have taught us, more than conventional notions of distributive justice are at stake here: one needs to add to the notion of justice that of fair and equal participation by the impoverished and indigenous peoples and concepts of fair procedural justice. ‘Geographies of recognition and participation’ remain important for further development.

Some theorists of environmental justice have sought to relate justice to ‘sustainable development’ – whether the last phrase is an oxymoron (or Baxi-moron) remains to be decided – but I have always maintained that to achieve ‘sustainable development’ one must dare to articulate unsustainable thought! There is today a shift in emphasis towards discussion about ‘just sustainability’ in a post-development era. Without exploring this further, it suffices to say that sustainability is more a matter of policies of governance rather than an agenda of justice. The central notion is that which pertains to development, and development (howsoever we choose to describe its processes and programmes) always signifies a degree of destruction: the motto of developers everywhere is ‘No development without destruction’ and this entails the idea not merely that some degree of development is inevitable but also that it is just. If so, and alternately put in terms of ethical meta-theory, some ‘moral loss’ is always entailed when we speak about the secular theologies of ‘development’, ‘free markets’, or ‘post-development’. As such, the major question is then whether ‘moral loss’ is always just, a question that always pertains to how much cost would/should the developpees afford to pay and for how long? Do measures of rehabilitation and resettlement ever make up for the loss of worlds? Is moral loss always to be borne as the cost of development by the communities of the worst-off in all societies?²⁰

²⁰ The Brundtland Commission Report pioneered this conception of sustainable development well. Combining sustainability with development is a hard task, even when international environmental justice is confined to a single generation. The Brundtland Report extended the notion to the entire economy and society; its notion of development is that which ‘meets the needs of the present without compromising the ability of future generations to meet their own

D. HISTORICAL INJUSTICES

The third area of questioning relates to the issue of relation between historical injustices and intergenerational justice. Janna Thompson has shown that historical injustice essentially amounts to ‘taking responsibility for the past’.²¹ It assumes the function of material rehabilitation or a sincere act of moral apology, or both. Reparations are now an integral aspect of state practice in international law; positions vary, however, under the domestic law. Apology and acts of amnesty follow the findings of the truth commissions.

Is the principle of common but differentiated responsibility and respective capabilities (CBDR-RC) a principle of Anthropocene justice?²² If it is, what kinds of histories does it encompass? Its normative pedigree surely makes it a principle of equity. In emerging climate change law and jurisprudence, it was negotiations for the CBDR-RC that first produced the term ‘common concern of humankind’ – a term of art for a new common sense of shared responsibilities for global environmental issues.²³ Principle 7 in the 1992 Rio Declaration states: ‘In view of the different contributions to global

needs’: United Nations, *Our Common Future: World Commission on Environment and Development* (1987). For critical perspectives, see Dinah Shelton, ‘Legitimate and Necessary: Adjudicating Human Rights Violations Related to Activities Causing Environmental Harm or Risk’ (2015) 6(2) *Journal of Human Rights and the Environment* 139; Andreas Philippopoulos-Mihalopoulos, *Absent Environments: Theorising Environmental Law and the City* (Routledge-Cavendish 2007). But see, for a celebrationist perspective, V Meg, *Sustainable Development, Energy, and the City: A Civilisation of Visions and Actions* (Springer Science+Business Media 2005). See also, David Schlosberg, ‘Reconceiving Environmental Justice: Global Movements and Political Theories’ (2004) 13(5) *Environmental Politics* 517; Nancy C Carre, ‘Environmental Justice and Hydraulic Fracturing: The Ascendancy of Grassroots Populism in Policy Determination’ (2012) 4(1) *Journal of Social Change* 1; Dale Jamieson, ‘Duties to the Distant: Aid, Assistance, and Intervention in the Developing World’ (2005) 9 *The Journal of Ethics* 151. See as to the realities of war/conflict displaced people and what happens in the process to sustainable development, Helen Young and Lisa Goldman (eds), *Livelihoods, Natural Resources, and Post-Conflict Peace Building* (Routledge 2015).

²¹ Janna Thompson, ‘Injustice and the Removal of Aboriginal Children’ (2000) 2 *Australian Journal of Professional and Applied Ethics* 2. See also, Janna Thompson, ‘Historical Injustice and Reparation: Justifying Claims of Descendants’ (2001) 112(1) *Ethics* 114; Janna Thompson, *Taking Responsibility for the Past* (Polity 2003); Janna Thompson, ‘Apology, Justice and Respect: A Critical Defense of Political Apology’ in Mark Gibney and others (eds), *The Age of Apology: Facing Up to the Past* (University of Philadelphia Press 2008) 31; Janna Thompson, *Intergenerational Justice: Rights and Responsibilities in an Intergenerational Polity* (Routledge 2009); Mathias Thaler, ‘Just Pretending: Political Apologies for Historical Injustice and Vice’s Tribute to Virtue’ (2012) 15(3) *Critical Review of International Social and Political Philosophy* 259.

²² The addition of respective capabilities is adopted in the Paris Agreement.

²³ Chelsea Bowling and others, ‘The Common Concern of Humankind: A Potential Framework for a New International Legally Binding Instrument on the Conservation and Sustainable Use of Marine Biological Diversity in the High Seas’ (2016) accessed at <http://docplayer.net/48698444-Chelsea-bowling-1-elizabeth-pierson-1-stephanie-ratte-2-executive-summary.html>.

environmental degradation, States have common but differentiated responsibilities'.²⁴ Developed countries acknowledged 'the responsibility that they bear in the international pursuit of sustainable development in view of the pressures their societies place on the global environment and of the technologies and financial resources they command'. Article 4 of the United Nations Framework Convention on Climate Change (UNFCCC) enjoins state parties to undertake a range of commitments while taking into consideration 'their common but differentiated responsibilities and their specific national and regional development priorities, objectives and circumstances'. The preamble to the Convention notes 'that the largest share of historical and current global emissions of greenhouse gases has originated in developed countries, that per capita emissions in developing countries are still relatively low and that the share of global emissions originating in developing countries will grow to meet their social and development needs'.²⁵

A less specific language concerning causation exists in the UNFCCC; while urging that all parties should act to protect the climate system, it enacted the CBDR-RC principle 'on the basis of equality and in accordance with their common but differentiated responsibilities and *respective capabilities*'.²⁶ What the italicized phrase here means, and may in future signify, remains open to fierce contention.

Some would say that the Paris Agreement marks an advance over the Kyoto Protocol. A main reason for this view is the abolition of differences between global South and North through the abolition of Annex 1 emissions obligations for developed and transitional countries in the Protocol and the elevation of climate change to a common concern of humankind in the preamble to the Agreement. Others would say that it is not just to equate historically the two and the saviour responsibility must lie heavily on Western nations that spread industrialization following the Industrial Revolutions and promoted the 'economy of speed' in a globalized world.

CBDR-RC, subject to a strong or weak version of historical causation, is certainly now an aspect of climate change justice. While underscoring the common responsibility of all for adaptation and mitigation, it takes into account the 'respective capacities' of countries at different stages of development.

E. THE HARM PRINCIPLE

The fourth arena is the harm principle which is proposed as an extension of existing international environmental law principles as a principle of a theory of Anthropocene

²⁴ UNGA, 'Report of the United Nations Conference on Environment and Development (The Rio Declaration on Environment and Development)', A/CONF.151/26 (Vol. I) (12 August 1992).

²⁵ United Nations Framework Convention on Climate Change, New York, 9 May 1992; cf UN Committee on Economic, Social and Cultural Rights, General Comment No 15: The Right to Water (Articles 11 and 12 of the International Covenant on Economic, Social and Cultural Rights), UN Doc No E/C12/2002/11 (2002).

²⁶ Emphasis added. See generally, Lavanya Rajamani, 'The Increasing Currency and Relevance of Rights-Based Perspectives in the International Negotiations on Climate Change' (2010) 22(3) *Journal of Environmental Law* 391; see also, Lavanya Rajamani, *Differential Treatment in International Environmental Law* (Oxford University Press 2006).

justice. The harm principle is articulated in the Roman law maxim *primum non nocere* (above all, do no harm), and similar precepts are found in non-European cultures as comparative explorations in bioethics and medical ethics now reveal.

The harm principle has been urged as an intersubjective but normatively shared ground for postulating certain duties or obligations of global climate justice. These grounds must rest on a new ethics that insists on a harm avoidance principle. In Peter Lawrence's words, it prescribes that the 'current generation, particularly those in positions of power, have an ethical obligation to refrain from action which has a high probability of causing serious harm to the basic interests and core human rights of (1) the current generation and (2) the future generations'.²⁷ Calling this a 'harm avoidance principle' – indeed, a long ethical and social theory lineage in European as well as non-European thought and theory – Lawrence draws our attention to the fact that a harm avoidance principle has the merit of consistency with the 'polluter pays' principle and the precautionary principle.²⁸ This principle also seems workable enough to give urgency and otherwise inform ongoing climate negotiations in the UNFCCC. The need for a binding climate change treaty can no longer be denied. What is most crucial, in the enunciation offered by Lawrence, is avoidance of harm to 'core human rights' and is eminently maintainable that the right to access to water is one such human right.

Climatic harms extend to many future persons and generations. Stephen Gardiner demonstrates, first, that 'climate change is not a static phenomenon' and in 'failing to act appropriately, the current generation does not simply pass an existing problem along to future people, rather it adds to it, making the problem worse'. The 'costs of coping with climate change' increase because failing to act now increases the magnitude of future climate change and climatic harms, and 'increases mitigation costs: failing to act now makes it more difficult to change because it allows additional investment in fossil fuel-based infrastructure in developed and especially less developed countries'. Social inaction and indifference 'raises transition costs, making future change harder than change now'. Finally, 'and perhaps most importantly, the current generation does not add to the problem in a linear way. Rather, it rapidly accelerates the problem, since global emissions are increasing at a substantial rate. The total carbon dioxide emissions have more than quadrupled since 1950 ...'. In other words, climatic harms are locked in due to historically emitted greenhouse gases.²⁹ Gardiner seems to draw a distinction between human rights-oriented/based climate change justice

²⁷ Peter Lawrence, *Justice for the Future Generations: Climate Change and International Law* (Edward Elgar Publishing 2014) 33.

²⁸ Stephen M Gardiner, 'A Perfect Moral Storm: Climate Change, Intergenerational Ethics and the Problem of Moral Corruption' (2006) 15 *Environmental Values* 397, 398. But see, Dale Jamieson, 'Jack, Jill, and Jane in a Perfect Moral Storm' (2013) 3(1) *Philosophy and Public Issues* (New Series) 37, 38; Jamieson, I think rightly, maintains that 'we do not have adequate norms and values that motivate us to address climate change. This is a profound ethical failure' – or to use another of Gardiner's descriptions, a 'tragedy' – but 'it is not the same kind of failure or tragedy as failing to live up to one's principles. In my opinion, the really profound moral challenge of climate change consists in formulating and implementing new moral norms and concepts that are adequate to the problems we face in this unprecedented period in human history'.

²⁹ See Baxi (n 11).

approaches and ‘environment/climate’-based rights concerns. Although he is not hostile to ‘deep ecology approaches’, he is moved to endorse ‘practical pluralism’ which encourages building on ‘human centered ethical and justice theories’, which are ‘less controversial’ and rely on ‘human rights to life, health, and subsistence, which are adequate in generating ethical obligations towards future generations’.

Tremmel explicitly advocates the view that ‘the idea of justice is not suitable for this cause, but that supererogatory duties demand us to compensate the South for the North’s excessive use of atmospheric resources before 1990’, and he goes on to add that:

Morality is not exhausted merely in complying with mandates of justice. The scope of morality also encompasses good-naturedness, benevolence, sympathy, compassion, altruism, generosity, and other such qualities. But of course, there is no moral obligation to these supererogatory duties, whereas it would be immoral not to fulfil obligations of justice.³⁰

If so, more is necessary by way of thought and theorizing than the idea of Anthropocene justice.

CONCLUSION

If the obligations of justice and global social change policy, theory, and movement are to extend to all peoples, communities, states, and non-state actors, a considerable renovation of justice theories and thought is required. We need, I reiterate, to more fully conceptualize and narrate intergenerational justice and Anthropocene justice and to devise approaches to answer some tough problems as follows:

1. *The Problem of Imagination*: How far may we imagine new lifeforms and lifeworlds in the Anthropocene? (Is it too soon? We already hear the talk of a post-Anthropocene!)³¹
2. *The Problem of New and Unforeseen Technologies*: Are we free to imagine continuities with existing technologies or will the future be discontinuous and replete with new ones, including ethical/moral technologies?
3. *The Problem of Owning*: Is it possible today to distinguish between obligations of justice that are owed to co-nationals as compared with obligations owed to all citizens, species, and objects of/in Nature?
4. *The Problem of Original Position*: If justice were to be conceived mainly in terms of procedural justice, how can procedures be made relevant to future generations which cannot be at the table?

³⁰ Joerg Chet Tremmel, ‘Climate Change and Political Philosophy: Who Owes What to Whom’ (2013) 22(6) *Environmental Values* 725, 745.

³¹ Andrew Glikson and Benjamin Yoram, *The Plutocene: Blueprints for a Post-Anthropocene Greenhouse Earth* (Springer International Publishing 2017); Benjamin Bratton, ‘Some Trace Effects of the Post-Anthropocene: On Accelerationist Geopolitical Aesthetics’ (2013) *e-flux Journal* 46.

5. *The Problem of Rights*: Will the basic interests and core rights that the future people have, or ought to have, be almost the same as now, or at least similar?
6. *The Problem of Loyalty*: In which ways do we owe (and, if owed, how do we foster?) loyalty to the Planet as distinct from the World, and to other species?
7. *The Problem of Righteousness*: Is Anthropocene justice best brought about by being reverential to the anthropomorphic or by embracing all-species-relevant standards and norms of justice? What are the geographies of climate injustice? Are they always geographies of rightlessness? Or, what have been recently termed as ‘power geometries’?³²
8. *The Problem of Ethics of Rights*: Is any theoretical approach to Anthropocene justice fated to remain ethically overdemanding?³³

³² Susannah Fisher, ‘The Emerging Geographies of Climate Justice’ (2015) 181 *The Geographical Journal* 73; Emma S Norman and Karen Bakker, ‘Transgressing Scales: Water Governance across the Canada-US Borderland’ (2009) 99(1) *Annals of the Association of American Geographers* 99; Diana Suhardiman and Mark Giordano, ‘Legal Plurality in Mekong Hydropower: Its Emergence and Policy Implications’ in Anik Bhaduri and others (eds) (n 9) 355; Pedi Obani and Joyeeta Gupta, ‘The Human Right to Water and Sanitation: Reflections on Making the System Effective’ in Anik Bhaduri and others (eds) (n 9) 385. For further development of the notion of geographies of injustice and rightlessness, see Upendra Baxi, ‘Some Newly Emergent Geographies of Injustice: Boundaries and Borders in International Law’ (2016) 23(1) *Indiana Journal of Global Studies* 15.

³³ Torbjörn Tännsjö, *From Reasons to Norms: On the Basic Questions in Ethics* (Springer 2010); Thomas Risse and others (eds), *The Power of Human Rights: International Norms and Domestic Change* (Cambridge University Press 1999). Upendra Baxi, ‘Transgressions, Demosprudence, and Justice’ in Leila Choukroune and Parul Bhandari (eds), *Exploring Indian Modernities: Ideas and Practices* (Springer 2018) 21.