

CLIMATE REPARATIONS

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The impacts of climate change are experienced unevenly, with the most vulnerable — the ‘climate vulnerable’ — set to suffer first and worst. These impacts demonstrate a grand irony: those who suffer most acutely are also those who are least responsible for the crisis to date. That irony introduces a great ethical dilemma, one that our systems of law and governance are ill-equipped to accommodate. Attempts to right this imbalance between fault and consequence result in a cacophony of political negotiation and legal action between and amongst various political scales that have yielded wholly insufficient remedies. In this article, I introduce a theory of climate reparations to meet the injuries that will result from climate change.

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I INTRODUCTION

The climate crisis introduces an existential and moral dilemma of unparalleled proportions. The proliferation of carbon-based emissions in the atmosphere is threatening — and will continue to threaten with greater severity — the

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ecosystems that support all life and human civilisation. The impacts of climate change are experienced unevenly, with the most vulnerable — the ‘climate vulnerable’ — set to suffer first and worst.¹ The current and anticipated impacts demonstrate a grand irony: those who will suffer most acutely are also those who are least responsible for the crisis to date. That irony introduces a great ethical dilemma, one that our systems of law and governance are ill-equipped to accommodate. Indeed, attempts to right this imbalance between fault and consequence have resulted in a cacophony of political negotiation and legal action between and amongst various political scales that have yielded insufficient remedies, if any. In this article, I introduce a theory of climate reparations to meet the great and disproportionate injuries that will result from anthropogenic climate change.

In the absence of a substantial commitment to remedy the harm faced by the climate vulnerable, reparations for damage caused by climate change can provide a comprehensive organising principle for claims against those most responsible while placing key ethics and justice concerns — concerns that have been heretofore woefully under-emphasised — at the centre of the climate debate. In other words, a reparations frame can organise communities of victims behind a common articulation of the violation. The very nature of climate change defies a comfortable parsing of familiar claims and remedies. Therefore, while ad hoc litigation efforts will remain important, an overarching reparations claim is key to meet the scale of the climate injury. Effective compensation cannot occur in a vacuum, and disparate judges or jurisdictions should not determine the fate of the climate vulnerable.

In recent decades, the scope and nature of reparations claims have generally shifted dramatically. Rather than serving merely as financial compensation to the victor for past damages suffered,² reparations efforts now have a character and process with inherent value. Not simply looking to the past, reparative efforts are also forward-looking as they attempt to honour the past. And rather than fixate on an actual remedy, the realisation of moral repair is as much bound up in the process as it is in the result. In sum, a reparations effort has both ‘ends’ and ‘means’ value.

A successful reparations effort can result in aggressive mitigation from the developed world while also ensuring long-term support for critical adaptation

¹ The Intergovernmental Panel on Climate Change (‘IPCC’) defines vulnerability as ‘the degree to which a system is susceptible to, and unable to cope with, adverse effects of climate change, including climate variability and extremes’: IPCC, ‘Summary for Policymakers’ in Working Group II, IPCC, *Climate Change 2007: Impacts, Adaptation and Vulnerability* (IPCC Fourth Assessment Report, 2007) 7, 21. Here, the ‘climate vulnerable’ describes those communities or nation-states that have a particularly acute vulnerability to present and forecasted climatic changes.

² Historically, ‘reparations’ described postwar indemnities paid by a defeated entity to the victors: John Torpey, *Making Whole What Has Been Smashed: On Reparation Politics* (2006) 42–3.

measures for the most vulnerable. Most importantly, however, reparations efforts can engage the globe — particularly those in the developed world — in the great ethical challenge posed by climate change and the developed world's lacklustre response. Public outrage in the United States at the collapse in livelihood of hundreds of millions is virtually non-existent. A discussion distinct from 'caps', 'trades', and 'costs to the average consumer' will help to illuminate suffering of the climate vulnerable, and the developed world's understanding of its own responsibility. A reparations effort can shine that light.

Part II reviews prior attempts to provide a remedy for the climate vulnerable. I first briefly discuss climate change impacts across the globe and on the most vulnerable. I then define the class of 'climate vulnerable' to whom this piece is most relevant. I then review extant methods of remedying these disproportionate impacts, all of which highlight the elusiveness of a comprehensive and *just* remedy for the climate vulnerable.

Part III introduces a reparations framework for the climate vulnerable. Climate reparations is an essential method for achieving comprehensive responses to impacts on the most vulnerable. I first provide a working definition for a reparations framework, demonstrating its validity as a viable approach with a review of its origins in international law principles. I then discuss the moral structure of a reparations claim, both generally and in the context of climate change. Finally, I delve into the form and function of climate reparations. In exploring its form, I discuss the important elements of any reparations claim — including the often overlooked element of non-repetition. For any reparative scheme to be truly successful, the remedy must introduce mechanisms that limit the ability of the perpetrator to repeat the offending act. In the case of climate change, the developed world needs to rapidly abandon its use of fossil fuels and replace that usage with materials that are inexhaustible and, at the same time, do not produce life-endangering externalities. In discussing its function, I explore the value of building a reparations effort and determining the proper remedies. The effort, beyond the remedies that result, emerges as a valuable avenue for truly grappling with the profound moral problems that anthropogenic climate change has introduced. If executed effectively, reparations, unlike the existing remedial mechanisms, can foster social solidarity and a just state of affairs — an outcome desperately needed as humanity faces its greatest challenge. Part IV tests the feasibility of a reparations effort by exploring a possible claim by small island developing nations against the US.

I conclude with a sober assessment of the feasibility of a reparations claim in our current political environment. It is my contention that a steady and repeated call for reparations will compel discussion of the moral force behind the very claims for repair. Indeed, the process of deliberating the content and feasibility of climate reparations will be the first step in revealing the enormity of the harm and injustice faced by the climate vulnerable — and lay bare the speed and scale of the remedy needed.

II THE REMEDY ENIGMA: IN SEARCH OF JUST RESPONSES TO CLIMATE CHANGE

A Climate Impacts — The ‘Uncompensated Wrong’

An ice bridge linking a shelf of ice the size of Jamaica ... has snapped.³

Reports of rapid climate change air with greater frequency, telling of lost ice sheets that rival entire landmasses for the world’s most vulnerable populations. Climate forecasts have increasingly suggested significant shifts in the rate and intensity of certain events, including the melting of massive ice sheets, yet the speed with which these shifts presently occur has alarmed the experts. In this Part, I briefly discuss the current climate forecasts that are the result of anthropogenic emissions, 75 per cent of which have been emitted by the developed world.⁴

Increased concentrations of carbon dioxide in the atmosphere threaten the current stability of ecosystems and civilisations, with greater effect on the world’s poor and those least equipped to adapt. The rising temperatures that result from higher carbon concentrations are linked to changes in rainfall, with attendant impacts on water supply for humans, agriculture and ecosystems.⁵ Rapid melting of tropical glaciers result in severe threats to water supply and hydropower.⁶ Additionally, increased fire frequency, ecosystem damage, desertification⁷ and irrevocable sea level rise, observed today, will persist for generations and are irreversible.⁸ Indeed, observed changes in climate are

³ ‘Ice Bridge Ruptures in Antarctic’, *BBC News* (UK) 5 April 2009 <<http://news.bbc.co.uk/2/hi/7984054.stm>>. Much of the ice shelf behind is likely to follow.

⁴ Ad Hoc Working Group on Further Commitments for Annex I Parties under the Kyoto Protocol, *Consideration of the Scale of Emission Reductions to Be Achieved by Annex I Parties in Aggregate — Addendum: Submissions from Parties*, UN Doc FCCC/KP/AWG/2009/MISC.1/Add.1 (25 March 2009) 10 (*Paper No 2: Submission by Tuvalu*).

⁵ The world has already warmed by roughly 0.8°C since the industrial revolution and, taking into account past greenhouse gas emissions, another 0.5°C is inevitable over the coming decades: David Adam, ‘World Will Not Meet 2C Warming Target, Climate Change Experts Agree’, *The Guardian* (London, UK) 14 April 2009, 1. Before the industrial revolution, CO₂ concentrations averaged 278 parts per million (‘ppm’): United Nations Framework Convention on Climate Change (‘UNFCCC’), ‘Fact Sheet: The Need for Mitigation’ (Press Briefing, June 2009) 2. By 1990, the average concentration totalled 350 ppm and is today at 387 ppm: Pieter Tans, National Oceanic and Atmosphere Administration, *Mauna Loa CO₂ Monthly Mean Data* (Earth System Research Laboratory Data, 2009). This number is significant as it ‘is already too high to maintain the climate to which humanity, wildlife, and the rest of the biosphere are adapted’: James Hansen et al, ‘Target Atmospheric CO₂: Where Should Humanity Aim?’ (2008) 2 *Open Atmosphere Science Journal* 217, 228. The effects are additive. In other words, ‘a warming climate causes net release of [greenhouse gases]’, which in turn increases temperatures: at 219. Further increased emissions introduce the risk of reaching tipping points, points at which rapid changes in climate can proceed ‘practically out of our control’: at 225.

⁶ ‘Warming Threatening Water Supplies in Developing Countries’, *ClimateWire* (US) 13 April 2009, available from <<http://www.eenews.net/cw>>.

⁷ Susan Solomon et al, ‘Irreversible Climate Change due to Carbon Dioxide Emissions’ (2008) 106 *Proceedings of the National Academy of Sciences* 1704, 1707.

⁸ *Ibid* 1709.

already occurring with evidence that these changes are due to human activity.⁹ Such observed impacts indicate that we have already reached an atmospheric carbon concentration that is in the ‘danger zone’.¹⁰ According to recent studies, existing models (providing the climate forecasts on which plans to mitigate and adapt to climate change rely) are ‘more lethargic than the real world for phenomena now unfolding’.¹¹ Lord Nicholas Stern has succinctly summed up the most recent scientific findings for the layperson: ‘emissions are growing faster than we thought, the absorption capacity of the planet is less than we thought, the probability of high temperatures is likely higher than we thought, and some of the effects are coming faster than we thought’.¹² The implications of this grim outlook are significant; indeed, they reflect the worst-case projections, ‘or even worse’.¹³

B The Climate Vulnerable

The ‘climate vulnerable’ describes those communities or nation-states that have a particularly acute vulnerability to present and forecasted climatic changes.¹⁴ Evidence of climate change’s disproportionate impacts is well documented and becoming increasingly prevalent. As early as 2001, it was recognised that the IPCC stated ‘the countries with the fewest resources are likely to bear the greatest burden of climate change in terms of loss of life and relative effect on investment and economy’.¹⁵ Growing evidence reveals that climate change will hit two specific groups ‘disproportionately and unfairly’; that

⁹ Ibid 1704. For example, ‘data reveal a 4-degree latitudinal shift already larger than model predictions, yielding increased aridity in the southern United States, the Mediterranean region, Australia and parts of Africa’: Hansen et al, above n 5, 226. According to Hansen et al, the impacts of this climate shift, in addition to present glacial retreat and warming that is in the pipeline, support the conclusion that current carbon concentrations are already ‘deleterious’ and are ‘a threat’: at 226. What is worse is the irreversibility of these impacts, where climate change caused by increases in carbon dioxide concentration is largely irreversible for 1000 years after emissions stop: Solomon et al, above n 7, 1707.

¹⁰ Hansen et al, above n 5, 218.

¹¹ Ibid 225. The most recent climate science is quite bleak: see, eg, Eli Kintisch, ‘Projections of Climate Change Go from Bad to Worse, Scientists Report’ (2009) 323 *Science* 1546. Kintisch’s article summarises the conclusions of almost 2000 scientists who met in Copenhagen two years after the most recent report of the ‘authoritative’ IPCC, and finds that emissions are soaring; projections of sea level rise are higher than expected; and climate ‘impacts’ around the world are occurring with increasing frequency. See also Jean-Marie Macabrey, ‘Researchers Warn that Sea Levels Will Rise Much Faster than Expected’, *ClimateWire* (US) 11 March 2009; Lauren Morello, ‘Climate Changing “More Rapidly” than Predicted’, *ClimateWire* (US) 26 March 2009.

¹² Jean-Marie Macabrey, ‘Scientists Are Grim, Economists More Optimistic about Climate Change’s Effects’, *New York Times* (New York, US) 13 March 2009.

¹³ Kintisch, above n 11, 1546. Katherine Richardson, Vice Dean of the Faculty of Science, University of Copenhagen, stated that ‘[w]e are at the very least in the worst-case scenario of the IPCC. There’s no good news there’: quoted in Macabrey, ‘Researchers Warn’, above n 11.

¹⁴ See above n 1.

¹⁵ See African Development Bank et al, *Poverty and Climate Change: Reducing the Vulnerability of the Poor through Adaptation* (2003) 5, citing Working Group II, IPCC, *Climate Change 2001: Impacts, Adaptation and Vulnerability* (IPCC Third Assessment Report, 2001). The authors of this report are members of the Poverty Environment Partnership.

is, the poor and those living in island states.¹⁶ The vulnerability of these groups is based on the kinds of climate changes to which they will be exposed as well as their ability — or inability — to protect against shifting weather patterns and acute hydro-meteorological events. In other words, global warming is expected to have dramatic impact on dryland agriculture, coastal systems and fisheries, the very systems on which the globe's poorest depend.¹⁷ Further, the poorest of the poor and small islanders lack the resources to defend themselves with, for example, expensive flood controls or sophisticated public health programs.¹⁸

The past and present emissions of the climate vulnerable are comparatively minuscule, compounding the moral disproportionality of their exposure level. In fact, this tragic component of climate change has been described as 'the world's biggest regressive tax', as the poorest are paying and will continue to pay for the emissions-intensive behaviour of the rich.¹⁹

The *United Nations Framework Convention on Climate Change* ('UNFCCC'),²⁰ an international treaty that was signed by both the developing and developed world (including the US), specifically identified past, current and long-term implications of continued, intensive carbon emissions, underscoring the need for rapid reduction of CO₂ emissions by the major polluters.²¹ Since the inception of the *UNFCCC*, however, emissions trends have moved inversely. In other words, as the science has grown more specific and more dire, rates of emissions have increased. For example, the rate of global fossil fuel CO₂ emissions grew at approximately one per cent per year from 1980 to 2000 and at greater than three per cent per year between 2000 and 2005.²² Despite knowledge of the consequences of increased carbon output and their specific obligations under the *UNFCCC*, emissions in the developed world increased significantly,²³ with the US among the top increased emitters.²⁴

¹⁶ 'Climate Change and the Poor: Adapt or Die', *The Economist* (New York, US) 13 September 2008, 57, estimating the population of these two specific groups to be one billion in 100 countries. See generally IPCC, 'Summary for Policymakers', above n 1, 7–22.

¹⁷ IPCC, 'Summary for Policymakers', above n 1, 11–12.

¹⁸ *Ibid* 12. Climate migration — that is, mass migration in response to uninhabitability of homelands due to increased temperatures and concentrations of carbon — will also be of significance, though the exact magnitudes of those shifts are difficult to predict. Some experts estimate that as many as 250 million people, almost the entire population of the US, could be on the move within decades: Lisa Friedman, 'Facing the Spectre of the Globe's Biggest and Harshes Mass Journeys', *ClimateWire* (US) 2 March 2009, available from <<http://www.eenews.net/cw>>.

¹⁹ See 'Climate Change and the Poor', above n 16, citing Kirk Smith, Professor of Environmental Health Services at University of California, Berkeley. See also U Thara Srinivasan et al, 'The Debt of Nations and the Distribution of Ecological Impacts from Human Activities' (2008) 105 *Proceedings of the National Academy of Sciences* 1768. 'Although emissions and consumption patterns are not uniform within each income group, our analysis [of ecological debt] highlights the ecological harm poor countries bear to indirectly enable the living standards of wealthier nations': at 1771. Their work further suggests that 'globalization and economic development, particularly that accompanied by the burning of fossil fuels, may exacerbate the uneven distribution of ecological burdens'.

²⁰ Opened for signature 4 June 1992, 1771 UNTS 107 (entered into force 21 March 1994).

²¹ Solomon et al, above n 7, 1704, citing art 3(3) of the *UNFCCC*, which emphasises 'threats of serious or irreversible damage', which serve to underscore the importance of long-term impacts.

²² Solomon et al, above n 7, 1705.

²³ Hansen et al, above n 5, 226–7, finding that fossil fuel CO₂ emissions have been increasing at a rate close to the highest IPCC scenario.

To stabilise atmospheric carbon, and accordingly, the climate, net CO₂ emissions must approach zero.²⁵ Despite current rapid CO₂ emissions growth,²⁶ noted climate scientists James Hansen et al state that it is conceivable to lower CO₂ concentrations this century, but only through prompt and dramatic changes in policy.²⁷ In sum, '[h]umanity's task of moderating human-caused global climate change is urgent'.²⁸ The sluggish pace of the major emitters (past and present) begs significant questions about the ability of our current legal and political systems to effect needed change and the ethical framework that undergirds them.

C *The Elusive Just Remedy — Inadequacy of Existing Frameworks and Proposals*

While some scientists insist that reaching safe carbon concentrations is conceivable, behind closed doors many climate scientists are far less sanguine, due to palpable inertia in the legal and political arena.²⁹ It is this continuing inertia that lays bare the ineffectiveness of decades of political negotiations and legal mechanisms at all geographical scales, in many and varied fora, to find a comprehensive and just remedy to the plight of the climate vulnerable. In this Part, I identify the existing legal and political responses to global climate change and then discuss their current inability to address adequately the morality and justice concerns intrinsic to the climate crisis.

1 *Inadequacy of UNFCCC and International Frameworks*

Due to the global nature of climate change, the most significant attempts to establish mitigation and adaptation measures have occurred in the international arena. Principle 13 of the *Rio Declaration*³⁰ of 1992 addresses the between liability and trans-boundary environmental damage that, by extension, pertains to climate change-related impacts. States are urged to cooperate 'to develop further international law regarding liability and compensation for adverse effects of

²⁴ See Subsidiary Body for Implementation, UNFCCC, *National Greenhouse Gas Inventory Data for the Period 1990–2009*, 29th sess, UN Doc FCCC/SB1/2008/12 (17 November 2008). This departure from less ecologically-destructive behaviour has been across the board. Researchers have found, for example, that '[h]igh income countries have exhibited the opposite trend away from sustainability': Daniel Moran et al, 'Measuring Sustainable Development — Nation by Nation' (2008) 4 *Ecological Economics* 470, 474. The profligate pace of the carbon-intensive world is notable: for example, it took 250 years to burn the first half trillion tonnes of carbon and is predicted to take less than forty years to burn the next half trillion: Myles Allen et al, 'The Exit Strategy' (2009) 3 *Nature Reports Climate Change* 56, 57.

²⁵ Hansen et al, above n 5, 217. This is due to the long lifetime of CO₂ in the atmosphere.

²⁶ This growth is measured at approximately two ppm per year: *ibid* 218.

²⁷ *Ibid*.

²⁸ *Ibid* 228.

²⁹ See generally Adam, above n 5, 1, detailing a survey of climate experts who attended a scientific conference in Copenhagen in March 2009. The majority of the survey respondents argued that it is still technologically and economically possible to meet a target of average temperature increase of 2°C since the industrial revolution. The survey found, however, that nine out of 10 climate scientists do not believe political efforts to restrict global warming to 2°C will succeed. Instead, they anticipate an average of 4–5°C by the end of this century.

³⁰ *Report of the United Nations Conference on Environment and Development*, UN Doc A/CONF.151/26/Rev.1 (Vol I) (12 August 1992) annex I (*Rio Declaration on Environment and Development*) principle 13 ('*Rio Declaration*').

environmental damage *caused by activities* within their jurisdiction or control to areas beyond their jurisdiction'.³¹ The *UNFCCC*, which entered into force in 1994 and has been ratified by 192 countries, has the goal of preventing 'dangerous' human interference with the climate system. The *Kyoto Protocol to the United Nations Framework Convention on Climate Change* ('*Kyoto Protocol*')³² provides more stringent and legally-enforceable measures as it mandates, among other things, emissions reductions from the developed world.

These existing mechanisms however have limped along, further impaired by major gaps in their scope and in compliance. The gaps have obstructed paths to stringent emissions reduction as well as strong investment in community resilience and adaptation. Even with its ambitious goal and the binding nature of the accompanying Protocol, the *UNFCCC* provides an inadequate response to the mitigative and adaptive needs of the climate vulnerable. First, even if the mandated emissions reductions were met, they would remain insufficient to avoid dangerous climate change. This is largely the case because the *Kyoto Protocol* could proceed even without the participation of a major emitter like the US, who, at the time of passage of the *Kyoto Protocol*, was the single greatest emitter of greenhouse gases. Second, the *UNFCCC* process lacks a coherent framework to provide recourse to the vulnerable when damage becomes too severe for adaptation to be possible, or where there is unavoids or unavoidable damage.³³ Unavoided damages are those that result from insufficient mitigation efforts and delays in accessing adequate adaptation funding and technology, or challenges in institutional capacity.³⁴ Unavoidable damages describe loss and damage that occur irrespective of future adaptation measures.³⁵ The latter is of immediate concern to the climate vulnerable as current climate forecasting suggests that many adaptation measures are rapidly becoming outdated and 'quaint'.³⁶ Further, the *UNFCCC* does not address the question of how losses from these types of damage should be borne amongst nations.³⁷ These gaps compound the gross lack of funding for adaptation measures with which the developing world is now wrestling.

³¹ Ibid (emphasis added). Importantly, intent is not required to trigger an obligation to compensate for harm.

³² Opened for signature 16 March 1998, 2303 UNTS 148 (entered into force 16 February 2005).

³³ See Roda Verheyen and Peter Roderick, *Beyond Adaptation: The Legal Duty to Pay Compensation for Climate Change Damage* (Paper presented to WWF-UK, November 2008) 5. Verheyen and Roderick delineate three types of climate change damage: avoided, not avoided and unavoidable: at 11.

³⁴ Ibid 11.

³⁵ Examples of unavoidable climate change damage include land lost to sea level rise, agricultural land lost to persistent drought, and lives that have been and will be lost due to increasingly severe extreme weather events: *ibid*.

³⁶ Dale Jamieson, 'The Moral and Political Challenges of Climate Change' (Paper delivered to 'GEOL 3520: Environmental Issues', University of Colorado, 2007) 1. For the science supporting that bleak assessment, see, eg, Solomon et al, above n 7, 1708, stating that 'sea walls and other adaptation measures' might not be enough as the conservative lower limit of sea level rise can be expected to be associated with 'substantial irreversible commitments to future changes in the geography of the Earth because many coastal and island "features" would ultimately become submerged'.

³⁷ See Verheyen and Roderick, above n 33, 13.

The developed world has agreed in principle that the climate vulnerable need substantial financial assistance to adapt to the ravages of climate change, yet the promised funds and monies provided to date have been woefully lacking.³⁸ Taking into account current and projected international finance, adaptation funding is only in the order of millions of dollars per year. This is compared to the over US\$50 billion that Oxfam estimates is required.³⁹

Attempts have been made to craft a comprehensive approach to achieve compensation based on climate change, both within and beyond the *UNFCCC*. One such attempt was a discussion paper by Roda Verheyen and Peter Roderick, which seeks to provide clarity and to review options for addressing damage and compensation within the *UNFCCC* process.⁴⁰ Yet even this framework does not address the ethics and justice elements that are key to a valuable system of reparation by climate change damages. Verheyen and Roderick persuasively argue that, at the international level, claims for compensation by the climate vulnerable against specified developed countries would have a firm basis in international law if brought before the appropriate tribunal.⁴¹ They conclude that many developed countries have had the opportunity to reduce their emissions; that many have been or should have been well aware of the consequences of increased emissions; and that they failed to take appropriate precautions in light of the risk, opting instead to generate 'excess emissions'.⁴² Further, they cite arguments contending that the language of the *UNFCCC* 'amounts to an implicit acceptance by developed country parties of responsibility for causing climate change',⁴³ yet the 'climate regime' lacks rules on compensation that might be used to aid adaptation measures in vulnerable nations.⁴⁴ In light of these very plausible claims, Verheyen and Roderick identify the possibility of legal action against the major polluting countries and rightly caution against a 'raft of complex, uncoordinated' and 'cumbersome' individual cases that might ensue.⁴⁵ Instead, they introduce a sound vehicle for a more comprehensive approach to

³⁸ See Lisa Friedman, 'Developing Nations Want Adaptation Funds; Developed Countries Aren't Yet Reaching for Their Checkbooks', *ClimateWire* (US) 16 March 2009. See also Verheyen and Roderick, above n 33, 11–12, stating that the funding architecture of the *UNFCCC* is 'plainly inadequate' to generate funding for adaptation (emphasis in original).

³⁹ Oxfam, *Adapting to Climate Change: What's Needed in Poor Countries, and Who Should Pay* (Oxfam Briefing Paper No 104, 29 May 2007) 1. Oxfam's estimated figure is not beyond the pale. Although the ranges vary, all estimates are, at the very least, in the billions: Verheyen and Roderick, above n 33, 13 (citing World Bank estimates for infrastructure alone as US\$9–41 billion per year and UNFCCC numbers in the range of US\$28–67 billion per year). This is compared to the available adaptation finances, which are at best in the hundreds of millions. See also Friedman, 'Developing Nations', above n 38. The European Commission has estimated the need for up to US\$75 billion annually by 2030 for adaptation worldwide: Stephen Gardner, 'EU Leaders Say Nations' Wealth, Emissions Should Determine Mitigation Responsibilities', *International Environment Daily* (US) 22 June 2009 (citing a January 2009 policy paper, which also found that about US\$244 billion would be needed annually by 2020 for mitigation measures worldwide).

⁴⁰ See Verheyen and Roderick, above n 33, 5.

⁴¹ These claims would be based on well-established rules of customary law, namely the no-harm rule and principles of state responsibility: *ibid* 6.

⁴² *Ibid*.

⁴³ Verheyen and Roderick, above n 33, 13, quoting Philippe Sands, *Principles of International Environmental Law* (2nd ed, 2005) 366, in reference to art 4(4) of the *UNFCCC*.

⁴⁴ Verheyen and Roderick, above n 33, 13.

⁴⁵ See *ibid* 5–6. Verheyen and Roderick suggest a negotiated mechanism under the *UNFCCC* to address damages and compensation from the major polluting countries: at 5–7.

compensation.⁴⁶ The deep moral challenge introduced by climate change generally and its disproportionate impact on the developing world in particular is not, however, squarely addressed by this legal mechanism.

2 *Inadequacy of Litigation*

Cooperation and negotiation, arguably foundational principles of international law,⁴⁷ militate against legal action. However, in the presence of significant gaps in the international climate regime, in order to fulfil its promises of avoiding dangerous climate change and providing adaptation support to the climate vulnerable, a flurry of legal actions and accompanying theories of liability have emerged and will likely proliferate.⁴⁸ Most claims at the domestic US level have tried to enforce more stringent emissions reductions. The vast majority of claims in the US, however, have not broached the special needs of the climate vulnerable. Claims on behalf of the climate vulnerable and those advancing claims for adaptation are far less frequent,⁴⁹ and the plausibility of their success is even more remote.

One such claim, recently dismissed in a US District Court, is *Native Village of Kivalina v Exxon Mobil*.⁵⁰ In *Kivalina*, the plaintiffs sought damages for climate change from oil, coal and electric utility companies, alleging that the defendants' greenhouse gas emissions constitute a public nuisance.⁵¹ Specifically, a native Inupiat village now must relocate due to melting sea ice that formerly served as a wave barrier for their village.⁵² The loss of that ice has resulted in significant erosion, rendering the village of Kivalina uninhabitable.⁵³ Until very recently, courts have deemed climate change and its remedies to be political questions beyond the expertise of the judiciary. The first of two recent departures from dismissal based on the political question doctrine was the Second Circuit's recent

⁴⁶ See *ibid* 6, on how the global community can use international legal rules and precedents to address the absence of a system by which those countries that have contributed to greenhouse gas pollution will pay compensation for climate change damage suffered by particularly vulnerable developing countries.

⁴⁷ See *ibid* 28.

⁴⁸ Many plaintiffs have pursued cases in US courts using existing regulations or tort-based theories to advance their claims: Michael B Gerrard and J Cullen Howe, Arnold and Porter LLP, *Climate Change Litigation in the US* (16 October 2009) <<http://www.climatecasechart.com>>. In this article, I focus only on the plausibility of claims on behalf of vulnerable nations against the industrialised world. So, with the exception of *Kivalina*, discussed below, I do not address the myriad uncoordinated cases that are currently characteristic of US domestic climate change litigation.

⁴⁹ *Ibid* 12, providing a brief overview of the public international law claims based on international human rights principles.

⁵⁰ See *Native Village of Kivalina v Exxon Mobil Corp*, No C 08-1138 SBA (ND Cal, 30 September 2009) (Order Granting Defendants' Motions to Dismiss for Lack of Subject Matter Jurisdiction) ('*Kivalina*'). See also Complaint for Damages; Demand for Jury Trial, *Native Village of Kivalina v Exxon Mobil Corp* (ND Cal, filed 26 February 2008) <<http://www.climatelaw.org/cases/country/us/kivalina/Kivalina%20Complaint.pdf>>.

⁵¹ *Ibid* 1–2.

⁵² *Ibid* 45–6.

⁵³ *Ibid* 46.

decision in *State of Connecticut v American Electric Power Co Inc*.⁵⁴ There, the Court found that public nuisance suits based on injuries resulting from climate change did not present non-justiciable political questions, thereby opening the way for courts to hear such claims. *Kivalina*, dismissed after the Second Circuit's decision, may eventually be overturned if the plaintiffs appeal to the Ninth Circuit. If so, the plaintiffs may benefit from previous Appellate Courts' ruling and survive dismissal.⁵⁵ *Kivalina* may also succeed or, at the very least, make greater strides than other common law claims as it tests novel claims of civil conspiracy and concert of action. If so, the particular claimants in *Kivalina* will be compensated and have the possibility to move to safer ground, though still having lost their homes. Further, a positive precedent may serve similarly-situated claimants, thus providing more widespread relief. These kinds of successes are piecemeal, however, and do not allow for a thorough engagement of the moral failure that this kind of displacement reflects.

The importance of confronting the ethical challenge should not be discounted. Indeed, it ostensibly served as a motivating force behind the *Inuit Petition*⁵⁶ to the Inter-American Commission on Human Rights ('IACHR') for the dangerous impacts of climate change. The claims were brought on behalf of the Inuit and other indigenous peoples of the Arctic regions of the US and Canada for threats to their lives and vital resources resulting from rising temperatures. The named defendant, the US, was the world's largest emitter of greenhouse gases at the time the petition was filed. Because the IACHR does not have the authority to order compensation or injunctive relief, a greater purpose of filing the petition was a contribution to global efforts to address climate change.⁵⁷ Attorneys working with the Inuit claimants, Martin Wagner and Donald Goldberg, concluded that a 'report by the IACHR finding that the US has violated the rights of the Inuit would have moral and political force that could help motivate

⁵⁴ 582 F 3d 309 (2nd Cir, 2009). The Court also held, among other things, that the plaintiffs have standing to bring their claims and that it was proper to bring claims under the federal common law of nuisance. See also *Comer v Murphy Oil USA*, No 07-60756 (5th Cir, 16 October 2009), which found, among other things, that nuisance, trespass and negligence claims did not present a non-justiciable political question.

⁵⁵ This may happen if the *Kivalina* plaintiffs appeal and the Ninth Circuit rules in a manner consistent with the Second and Fifth Circuits. It is also possible that the Defendant–Appellees in *State of Connecticut v American Electric Power Co Inc*, 582 F 3d 309 (2nd Cir, 2009) and *Comer v Murphy Oil USA*, No 07-60756 (5th Cir, 16 October 2009) will appeal to the US Supreme Court, allowing the nation's highest court to make the ultimate decision on these kinds of claims. It is difficult to predict whether or not the Court will reverse the Appellate Courts' decisions. Before that is determined, however, it is likely that the passage of comprehensive global warming legislation by the US Congress might include the elimination of public nuisance lawsuits based on climate change injuries. I thank Professor John Bonine and the other environmental law professors who have commented on this case on the envlawprofs listserv for their insight and analysis on the early implications of this recently decided case.

⁵⁶ Sheila Watt-Cloutier, Inuit Circumpolar Conference, *Petition to the Inter-American Commission on Human Rights Seeking Relief from Violations resulting from Global Warming Caused by Acts and Omissions of the United States* (7 December 2005) ('*Inuit Petition*').

⁵⁷ See Donald Goldberg and Martin Wagner, 'An Inuit Petition to the Inter-American Commission on Human Rights for Dangerous Impacts of Climate Change' (Paper presented at the 10th Conference of Parties to the UNFCCC, Buenos Aires, Argentina, 15 December 2004). Wagner is the Director of Earthjustice's International Program. Goldberg was formally a Senior Attorney at the Center for International Environmental Law.

political action and, if necessary, serve to support future litigation'.⁵⁸ Even though the IACHR appeared to be a favourable forum for a number of reasons,⁵⁹ at this stage it has been unable to yield substantive results, much less achieve repair and reconciliation based on the moral component central to the claims.⁶⁰

Presumably, the IACHR's unwillingness to make such a statement is due to the same hesitancy demonstrated by the US domestic courts: that the complaint raises issues beyond the competency of the courts. On a transnational scale, other judicial bodies are also deferring to political processes. Yet, as demonstrated by the *UNFCCC* process, political processes are yielding little by way of substantive action or long-term reconciliation or repair.

3 *Centring the Moral Claims*

Disproportionate historical emissions rates, and those emissions' impact on current atmospheric carbon concentrations and temperature rise, compounded by the developed world's sluggish response to climate impacts, raises significant and complex moral problems — problems that, to date, the climate discourse has not confronted in earnest. Indeed, not only are the ad hoc legal and political approaches uncoordinated and insufficient, they may distract from the profound moral implications of the lifestyles of a few thoroughly compromising the livelihoods of many.⁶¹ On one hand, the ethical issues are quite simple. Indeed, it is a universal ethical principle that harming others or risking harm to others for one's own gain is wrong.⁶² Numerous moral frameworks, from divine revelation to deontological ethics to social contract theory, if not mere common sense morality, militate against carbon-intensive by-products of industrialisation being allowed to threaten the livelihoods of others.⁶³ Further, the tenets of distributive justice demand immediate and aggressive mitigation.⁶⁴ On the other hand, philosopher Dale Jamieson correctly reasons that climate change presents a complex moral problem that our current political systems are not well suited to address.⁶⁵ He concludes by pondering the moral problem that the temporal nature of climate change alone introduces;⁶⁶ that is, without considering the distance between the primary emitters and those who are most severely impacted, deep

⁵⁸ Ibid 4.

⁵⁹ See *ibid* 1: the IACHR is 'often progressive and innovative in interpreting and applying human rights law'.

⁶⁰ The IACHR's decision is still pending.

⁶¹ Including themselves, of course. While the climate vulnerable are the first and worst to be hit, the developed world cannot insulate themselves from the ultimate impacts of a global phenomenon such as climate change.

⁶² In the climate justice context, see discussion of Paul Baer, 'Adaptation: Who Pays Whom?' in W Neil Adger et al (eds), *Fairness in Adaptation to Climate Change* (2006) 131, 134.

⁶³ *Ibid*.

⁶⁴ See Donald Brown, 'Climate Change' in John Dernbach (ed), *Stumbling towards Sustainability* (2002) 273, 300, arguing that:

Because distributive justice demands that the burdens of reducing a problem either be shared equally or based upon merit or deservedness, there is no conceivable equitably based formula that would allow the US to continue to emit at existing levels once it is understood that steep reductions are called for.

⁶⁵ See generally Jamieson, above n 36, 1.

⁶⁶ *Ibid* 1–2.

ethical challenges arise. Further, Jamieson notes that these moral and political challenges are relatively neglected.⁶⁷

I contend that the circumstances of the climate vulnerable — to the extent that they have been given attention — introduce an even more acute moral problem that our political and legal systems cannot adequately address. The international political landscape has major inherent gaps and has, to date, failed to make sweeping advances to mitigate and adapt to climate change. The legal landscape, even if revised and reframed in the ways that Verheyen and Roderick advocate, cannot wholly address the deep injustice of climate change. Even if legal avenues provide more than piecemeal approaches and remedies, they certainly will not get to the moral challenges that a reparations effort can address, both in process and content. Threats of lawsuits, for example, will not lead to a remedy that is forward-looking and holistic. Further, even if an arbiter finds in favour of the climate vulnerable, and compensation is actually paid, the developed world need not meaningfully confront the suffering of the climate vulnerable,⁶⁸ nor understand how its current systems have produced such an uneven state of affairs. To approach this unique moral dilemma, it is necessary to think outside of existing legal and political boxes and craft strategies and arguments from morality and consciousness.⁶⁹ Indeed, any strategy that can address the injustice faced by the climate vulnerable with appropriate effect must centre and draw on *moral* argument.⁷⁰

Scholars have identified sound approaches to achieving compensation based on a legal duty to pay. These have been important first steps to addressing the needs of the climate vulnerable. However, as Pablo de Greiff has stated convincingly,⁷¹ the norms of the typical legal system are not devised for massive and systematic violations, which is also true in the case of climate change. A reparative scheme could serve as an organising principle for these just compensation claims, while centring moral challenges currently neglected and fostering a healing process in the pursuit of just remedies.

III CLIMATE REPARATIONS CONSIDERED

If climate change makes our country uninhabitable, we will march with our wet feet into your living rooms.⁷²

As the impacts of climate change become increasingly severe, divisive legal claims might be the best of many far less coordinated alternatives. However,

⁶⁷ Ibid 1.

⁶⁸ This kind of meaningful engagement with the victims' suffering can occur through truth commissions and other fora that give voice to the disempowered. For further discussion of the importance of truth-telling, see Part III(D).

⁶⁹ Here I borrow from Max du Plessis' discussion of reparations for slavery. See generally Max du Plessis, 'Reparations and International Law: How Are Reparations to Be Determined (Past Wrong or Current Effects), against Whom, and What Form Should They Take?' (2003) 22 *Windsor Yearbook of Access to Justice* 41, 50.

⁷⁰ Ibid.

⁷¹ See Pablo de Greiff, 'Repairing the Past: Compensation for Victims of Human Rights Violations' in Pablo de Greiff (ed), *The Handbook of Reparations* (2006) 1, 2–3.

⁷² Atiq Rahman, Bangladesh Centre for Advanced Studies, quoted in J Timmons Roberts and Bradley C Parks, *A Climate of Injustice: Global Inequality, North–South Politics, and Climate Policy* (2007) 2. See also *ibid*.

none of these alternatives is optimal from the perspective of the climate vulnerable or the major polluters. Collaboration between the victims of excess emissions and major emitters is necessary for both parties — particularly the more powerful major emitters — to address the practical and moral challenges of finding just solutions to the climate crisis. Reparations result from agreement between victims and perpetrators; and, although they are sometimes made under pressure — as here the swallowing of whole nations’ demands — reparations involve both parties acknowledging that, under the circumstances, their futures are best served through collaboration.⁷³

A Reparations Defined

Reparations efforts have been theorised extensively by leading scholars.⁷⁴ The term ‘reparations’ nonetheless requires clarification in this context. In theory and in practice, its meaning is unsettled,⁷⁵ and sometimes evokes contrasting models of justice, accountability and repair. For that reason, I briefly introduce the diverse understandings of reparations and then articulate a working definition that I use to discuss climate reparations in particular.

The reparations ethos is based on international and general law principles that require perpetrators to return wronged individuals to the *status quo ante* or, if not possible, compensate victims for their injuries.⁷⁶ That more austere description captures neither the diverse manifestations of reparations efforts,⁷⁷ nor their potential as a transformative tool. To roughly organise reparations efforts, I borrow from reparations scholar Alfred Brophy. Reparation, broadly defined, describes programs that are justified by past harms and are also designed to assess and correct the harm and improve the lives of the victims into the future.⁷⁸ This definition incorporates the backward- and forward-looking nature of reparations claims. On the one hand, reparations often seek to identify and

⁷³ Some historical examples of reparations made under pressure include: *Promotion of National Unity and Reconciliation Act 1995* (South Africa); *Agreement between the State of Israel and the Federal Republic of Germany (Luxembourg Agreement)*, 192 UNTS 206 (signed and entered into force 10 September 1952); *Treaty of Peace between the Allied and Associated Powers and Germany (Treaty of Versailles)*, opened for signature 28 June 1919, 2 USTS 43 (entered into force 10 January 1920) art 231. See also Elazar Barkan, ‘Introduction: Reparation: A Moral and Political Dilemma’ in Jon Miller and Rahul Kumar (eds), *Reparations: Interdisciplinary Inquiries* (2007) 1, 16.

⁷⁴ See, eg, Martha Minow, *Between Vengeance and Forgiveness: Facing History after Genocide and Mass Violence* (1998) 91–117; Mari Matsuda, ‘Looking to the Bottom: Critical Legal Studies and Reparations’ (1987) 22 *Harvard Civil Rights — Civil Liberties Law Review* 323; Eric Yamamoto, ‘Racial Reparations: Japanese American Redress and African American Claims’ (1998) 40 *Boston College Law Review* 477.

⁷⁵ See de Greiff, ‘Repairing the Past’, above n 71, 13.

⁷⁶ de Greiff calls reparations ‘full restitution’: Pablo de Greiff, ‘Justice and Reparations’ in Pablo de Greiff (ed), *The Handbook of Reparations* (2006) 451, 455; see also Richard Falk, ‘Reparations, International Law, and Global Justice: A New Frontier’ in Pablo de Greiff (ed), *The Handbook of Reparations* (2006) 478, 485, 497 (citing applicable international human rights standards); du Plessis, above n 69, 42–50.

⁷⁷ See generally Pablo de Greiff (ed), *The Handbook of Reparations* (2006); Jon Miller and Rahul Kumar (eds), *Reparations: Interdisciplinary Inquiries* (2007).

⁷⁸ Alfred Brophy, *Reparations: Pro and Con* (2006) 9. Brophy acknowledges that this is a broad definition, but uses it in recognition of the diverse programs that are part of addressing past injustices.

compensate for an exact past harm.⁷⁹ On the other hand, forward-looking relief recognises that past harm has current and continuing effect and, rather than an exact calculation of monetary payment based on those current harms, reparations seek compensation to improve lives into the future.⁸⁰ This forward-looking approach allows for greater flexibility in choosing the type and size of the remedy and is the best way to tailor a reparations program to the nature of the harm.⁸¹

Though reparations are well-established measures in legal systems all over the world, the size and shape that they take are as diverse as the harms needing remedy.⁸² This is true in spite of the neat categorisations used above. In fact, one scholar has described reparations as having an ad hoc character, making them more ‘an expression of *moral* and *political* forces at work in particular contexts’.⁸³ Indeed, as Pablo de Greiff describes, in transitional periods reparations ‘seek to contribute (modestly) to reconstitution or the constitution of a new political community’.⁸⁴ There is a transformative quality to both the process and product of reparations efforts that stems from their engagement with morality and community. Indeed, the ability of reparations to express moral force is what makes reparations so compelling in the climate change context. Reparations based on climate impacts are justified by the unreasonable and disproportionate effect of past emissions. The effort to repair, commensurate with current harm and the ominous harms forecast for decades to come, might enable a future — plain and simple — for the climate vulnerable.

In this article, therefore, I use reparations to describe a process, instigated and propelled by the moral challenge of a massive wrong, to construct methods to improve the lives of current victims into the future. Climate reparations is the effort to assess the harm caused by the past emissions of the major polluters and to improve the lives of the climate vulnerable through direct programs, policies and/or mechanisms for significant resource transfers, to assure the ability of the climate vulnerable to contemplate a better livelihood in light of future climate challenges. In order to repair individual communities as well as the global community, all those engaged in the reparative effort will have to squarely confront the deep moral questions posed by both the initiating harm — excess emissions — and the continuing harm: the failure to adequately include the plight of the climate vulnerable in the current processes developed to mitigate and adapt to the climate crisis.

Applying a reparations frame to the climate change context arguably stretches the concept of reparations further than it has gone before. Generally, this reparations frame extends beyond the classic reparations case of clearly identifiable wrongs committed by one dominant group against a clearly

⁷⁹ Ibid 8. This is often based on principles of corrective justice norms, which acknowledge and repair past harms: at 9.

⁸⁰ Ibid 8.

⁸¹ Ibid. Brophy further explains that flexible, forward-looking programs can provide compensation for past injuries and still allow payments based on need, so that the amount of compensation is not necessarily tied to the harm.

⁸² See de Greiff, ‘Justice and Reparations’, above n 76, 454.

⁸³ Falk, above n 76, 485 (emphasis in original).

⁸⁴ de Greiff, ‘Justice and Reparations’, above n 76, 454, where de Greiff argues that, in this sense, reparations are best thought of as a ‘political project’.

identifiable group of victims. In the climate context, the reparations frame should be steeped in the possibility of a moral discourse and the reconstitution of society, promoting a more expansive and comprehensive concept of how to compensate for this moral wrong.

B *The Moral Dimension of Reparations*

Reparations struggles are inextricably bound up with the confrontation and resolution of moral challenges. As a means of thinking outside of the ‘strictures of the legal paradigm’, reparations can rely heavily on arguments of morality and consciousness.⁸⁵ Indeed, the moral obligation to provide reparations for injuries such as the harm caused by climate change are, according to Max du Plessis, an integral part of the moral global economy, which is premised on the idea of righting past injustices.⁸⁶ Without reparations, those injustices are not dealt with and, as a loose confederation of states that has emphasised democracy and human rights, ‘the West’ especially must face the problem of historical injustices.⁸⁷ If not, a damaging hypocrisy becomes clear: the West (or, in this case, the US) and the rest of the developed world endorse the notion of a just world while avoiding the need for repair of past injustices.⁸⁸ According to du Plessis, in the moral economy of nations, reparations are essential to rectify historical injustices and facilitate higher awareness of public morality.⁸⁹ In the process, the different parties’ histories are given recognition.⁹⁰

Climate change is a profound and unparalleled moral challenge of particular danger to the climate vulnerable.⁹¹ Quite simply, some have acted in a way that severely harms others.⁹² Setting aside the compounding issue of blame, that situation alone is the core of what constitutes a moral problem.⁹³ Yet many people do not approach climate change as a moral problem, much less an urgent

⁸⁵ du Plessis, above n 69, 50. See also Falk, above n 76, 480, explaining that Elazar Barkan and others approach issues of restitution and reparations as primarily matters of morality and politics rather than law; that is, treating these humanitarian initiatives as reflecting the impact of moral and political pressures rather than exhibiting adherence to previously established or newly emerging legal standards and procedures.

⁸⁶ du Plessis, above n 69, 53 (fn 43).

⁸⁷ *Ibid* 51.

⁸⁸ *Ibid* 54.

⁸⁹ *Ibid* 52.

⁹⁰ *Ibid* 53. The recognition of the different parties’ histories ultimately leads to a transfer of economic resources.

⁹¹ There are many moral dimensions to climate change. In addition to the impacts on the climate vulnerable the impacts on future generations and other species, for example, introduce significant ethical concerns. These are, however, beyond the scope of this article.

⁹² See, eg, Simon Caney, ‘Cosmopolitan Justice, Rights and Global Climate Change’ (2006) 19 *Canadian Journal of Law and Jurisprudence* 255, 278; Jamieson, above n 36, 2.

⁹³ Caney, above n 92, 278; Jamieson, above n 36, 2. Further, the simple moral equation is compounded by the subsequent approach to handling that harm. See, eg, Lisa Friedman, ‘Obama Administration Studies Need for a Climate “Guardrail”’, *ClimateWire* (US) 25 June 2009, quoting Keya Chatterjee, Deputy Director of WWF’s climate change program, who, after arguing for accepting the scientific consensus of 2°C maximum temperature rise on moral grounds, stated: ‘Ultimately, it is a moral call ... What amount of risk do we ask the poorest and most vulnerable countries to take on?’.

one.⁹⁴ Therefore, the moral challenges that it introduces are largely neglected. Jamieson proposes that this dramatic challenge to our moral consciousness is not perceived as such because it lacks some of the characteristics of a paradigmatic moral problem.⁹⁵ The paradigm is one in which an individual acting intentionally harms another individual, both individuals and the harm are identifiable, and the individuals and the harm are closely connected in time and space.⁹⁶

In the context of the climate vulnerable, there are still definite and substantial moral considerations at stake. However, they fall into a category of moral problems that are less clear. In other words, if a paradigmatic moral problem is the simple allegory of Jack intentionally stealing Jill's bike, it is relatively easy to identify and address — or redress — the problem. The scenario that most closely parallels the situation of the climate vulnerable is the following: Jack is part of a group of strangers, each of whom, acting independently, takes one part of Jill's bike, resulting in the bike's disappearance.⁹⁷ This situation is a bit more challenging, even though Jill's losses remain obvious.⁹⁸ Nevertheless, because perpetrators tend not to address climate change as a moral problem — perhaps because it does not directly fit the paradigm — individuals, communities and nation-states are not motivated to act with the urgency characteristic of responses to moral challenges.⁹⁹

The absence of moral considerations is evident not only in our sluggish pace at the national and international level but also in the very language used to discuss climate change. Instead of the language of morality — marked by care, empathy, responsibility and duty — the discussion of climate change, particularly in the US, is thoroughly dominated by science, economics and technological development.¹⁰⁰ Jamieson rightly states that there are important roles for such technical discourse; however, 'people do not change their lives on the basis of a cost-benefit analysis'.¹⁰¹ A reparations discourse can shift the tenor of that dialogue.

A carefully-conceived and executed reparations effort will allow for a thoughtful approach to the climate change dilemma, provide a means for healing,¹⁰² and, if done right, further galvanise the perpetrators to act beyond what is mandated by the enumerated reparations measures. Jamieson argues that to address slow-onset long-term problems like climate change requires a sense of ownership and identification with outcomes that our actions produce.¹⁰³ He continues that '[i]t is this sense of ownership and identification that allows us to

⁹⁴ Jamieson, above n 36, 3. The response of the industrialised world, and the US in particular, suggests a blindness to the moral imperative at base. For further discussion in the US context, see Maxine Burkett, 'Just Solutions to Climate Change: A Climate Justice Proposal for a Domestic Clean Development Mechanism' (2008) 56 *Buffalo Law Review* 169, 192–9.

⁹⁵ Jamieson, above n 36, 1.

⁹⁶ *Ibid.*

⁹⁷ *Ibid.* 2. Of course, this is a very abbreviated retelling of the moral challenge.

⁹⁸ For a discussion of the ethical ramifications of the losses of the vulnerable, see Caney, above n 92, 278, who argues that 'those who contribute to global climate change through high emissions are guilty of human rights violations and should be condemned as such'.

⁹⁹ Jamieson, above n 36, 3.

¹⁰⁰ *Ibid.* 8.

¹⁰¹ *Ibid.*

¹⁰² Reconciliation and healing are key components of reparations.

¹⁰³ Jamieson, above n 36, 6.

overcome the alienation from the collective consequences of our actions'.¹⁰⁴ I contend that to foster a sense of ownership and identity requires an understanding of the requirements and the consequences of living in this highly interconnected and globalised world.¹⁰⁵ Seeing climate change as a moral problem and recognising one's own participation in the greatest existential crisis facing the climate vulnerable can provide greater motivations for individuals and entities to make right the immense wrong of climate change. So, while traditional legal tools may succeed in a transfer of resources, they are likely to fail to transfer knowledge or empathy. As Jamieson writes, somewhat ingenuously, '[c]limate change ... has the potential for improving [our ethics and politics]. Successfully responding to climate change can make us better people and help us to reclaim our democracy'.¹⁰⁶ For the US and its citizens — and all citizens of the West — a reparations discourse could indeed prove transformative.

C Form: Building a Climate Reparations Effort

As I have argued elsewhere,¹⁰⁷ any successful reparations effort must contain three critical elements: an apology, a monetary or other award that gives actual or symbolic weight to that apology, and, most importantly, a commitment by the perpetrator not to repeat the offending act, also known as the 'guarantee of nonrepetition'.¹⁰⁸ I expand on the importance of these elements in the climate context, particularly the latter non-repetition prong, below. Here, I give more flesh to the structure of a climate reparations claim, identifying to whom and from whom climate reparations must be made and what form they should take.¹⁰⁹

1 For Whom

Reparations claimants are generally entitled to repair because they are immediate victims of the injustice or are injured in an identifiable and significant way.¹¹⁰ As discussed above, the climate vulnerable suffer from anthropogenic climate change to which their contribution is, in most cases, negligible, yet the consequences are life-threatening.

¹⁰⁴ Ibid.

¹⁰⁵ Ibid. This article is a variant of Jamieson's prescription for an 'ideal of character' that he terms 'green virtues', which require humility, temperance and mindfulness: at 7. I endorse this, although it is not achieved as easily within the framework of reparations.

¹⁰⁶ Ibid 8. Indeed, as de Greiff states: 'It is true that transitional moments are periods of heightened normative sensitivity, where both institutions and individuals have strong incentives to articulate the principles, norms, and values to which they commit themselves': de Greiff, 'Justice and Reparations', above n 76, 465.

¹⁰⁷ Maxine Burkett, 'Reconciliation and Nonrepetition: A New Paradigm for African-American Reparations' (2007) 86 *Oregon Law Review* 104.

¹⁰⁸ Ibid 104–5.

¹⁰⁹ This discussion is necessarily general as it is difficult to dictate how those seeking climate reparations will choose to organise their claims. It is possible that individual vulnerable nations will seek reparations from individual major polluters. It is also plausible that developing countries, as a self-defined group, will seek repair from individual nations or a cluster of major polluting countries, perhaps including major corporate emitters from emerging economies. The plausible configurations are many. Further, they allow for moral exploration and community-building that traditional legal means do not accommodate and current international or multilateral negotiations have not tolerated.

¹¹⁰ See Brophy, above n 78, 156, describing the moral structure of reparations claims.

Adding to the tragedy of increased vulnerability to climate change due to climate shifts and circumstance, the climate vulnerable are further injured by: the lack of meaningful participation in international negotiations, at which the major emitters wield ultimate power in setting the agenda; the stringency of the goals; and the very determination of what is considered 'dangerous' climate change. Indeed, Angus Friday, who has spoken for small island states at the UN, stated that the most vulnerable nations are the least able to participate effectively in the climate talks.¹¹¹

The inability to participate effectively results in perilously insufficient emissions reduction goals, an additional injury to which this class is subject. The *UNFCCC*, at the time of its passage, did not quantify the stabilisation level for atmospheric carbon, instead leaving that determination to future discussions at which parties to the *UNFCCC* would identify what constitutes a 'dangerous' interference with the climate system.¹¹² As described above, vulnerable developing countries and island nations have emphasised that they already experience what is for them dangerous climate change.¹¹³ Nevertheless, the world's wealthiest countries, comprised of the major emitters, have adopted a 2°C increase in global temperature above pre-industrial levels as a goal to limit human-made global warming.¹¹⁴ This is in contrast to scientists who argue for an increase of no more than 1.7°C,¹¹⁵ and the island nations' insistence that anything over 1.5°C could prove catastrophic.¹¹⁶ In spite of this bleak landscape, the developed world has not given serious or appropriate consideration to

¹¹¹ Cited in 'Climate Change and the Poor', above n 16, 58. This kind of neglect has been longstanding.

¹¹² UNFCCC, 'Fact Sheet', above n 5, 2.

¹¹³ Verheyen and Roderick, above n 33, 9; Ad Hoc Working Group on Long-Term Cooperative Action, *Ideas and Proposals on the Elements Contained in Paragraph 1 of the Bali Action Plan — Addendum: Submissions from Parties*, UN Doc FCCC/AWGLCA/2008/MISC.2/Add.1 (27 August 2008) 24 (*Paper No 2: Barbados on behalf of the Alliance of Small Island States — Preliminary AOSIS Views on Adaptation under the AWG-LCA*).

¹¹⁴ See discussion of the recent G8 agreement in Eric Lyman, 'Major Economies Vow to Limit Increase in Temperature, but Omit Emissions Target', *Daily Environment Report* (US) 10 July 2009. To be fair, this is consistent with what the IPCC has determined as dangerous and has set as the most stringent emissions reduction scenario: UNFCCC, 'Fact Sheet', above n 5, 3, describing the IPCC's most stringent scenario as one based on a 2.0–2.4°C rise in temperatures. See also Hansen et al, above n 5, 217, stating that the IPCC used 'several "reasons for concern" to estimate that the global warming of more than 2–3°C may be dangerous'. Yet that determination alone is a reflection of the power dynamic in the process of synthesising the science and issuing the recommendations. See also Kintisch, above n 11, 1546, describing the participants' freedom to make prescriptive statements due to the fact that they did not need to answer to 'political bosses'. It is also important to note that they have not agreed to emissions reduction goals, so the 2°C goal may just be hortatory: see Lyman, 'Major Economies Vow', above this note.

¹¹⁵ See Hansen et al, above n 5, 217, who argue for a limit of a 1.7°C increase relative to pre-industrial times with the aim of avoiding practically irreversible ice sheet and species loss.

¹¹⁶ Ad Hoc Working Group on Further Commitments for Annex I Parties under the Kyoto Protocol, above n 4. See also Nathaniel Gronewold, 'As World Cheers Climate Targets, Small Island Countries Despair', *ClimateWire* (US) 13 July 2009, describing the Alliance of Small Island States ('AOSIS') leaders blasting the G8 agreement to limit global temperature rise to 2°C, saying the commitment doomed many of them to destruction.

suggestions for meaningful contribution to adaptation and sound mechanisms for compensation.¹¹⁷

In sum, the harms for which the injured might seek repair are the result of past emissions actions described above and contemporary failures in the negotiations arena. A repair effort focuses on correcting the present-day effects of past wrongs, effectively shifting from *redress* to *address*.¹¹⁸ This is especially important in the context of climate change, for which act and injury are not contemporaneous. In fact, the characteristic time lag of increased carbon concentration's effects is yet another factor that makes the climate crisis such a unique moral and political challenge. For that reason, the impact of present-day emissions might have to be considered. Continued emissions of carbon may well constitute an additional and separate tort, though ultimately the groups pursuing the reparations claims would determine their temporal scope. Similar to other reparations efforts, however, the assumption is that without immediate and appropriate efforts to repair, the harm may continue and worsen into the future.¹¹⁹ The parallel hypothesis here is that if immediate and appropriate measures to mitigate and adapt are not implemented, the ecological destruction will persist and grow far more severe.

2 From Whom

Those responsible for repair might be those who have committed the harm, benefitted from the harm and/or are successors to the 'harm-doers'.¹²⁰ In the context of climate change, there is substantial evidence available that demonstrates the disproportionate historic and present-day emissions of the developed world,¹²¹ which is 'plausibly seen ... as a kind of tort imposed by

¹¹⁷ See, eg, Eric Lyman, 'Bonn Climate Talks Produce Target Ranges for Rich Nations to Cut Carbon Emissions', *Daily Environment Report* (US) 6 June 2009, describing a proposal floated by the Contact Group of Least Developed Countries to provide financing for the Adaptation Fund. The idea received a 'lukewarm response' from delegates. See also AOSIS, 'AOSIS Submission to the Fourth Workshop under the Dialogue on Long Term Cooperative Action to Address Climate Change by Enhancing Implementation of the Convention' (Dialogue Working Paper No 14, Fourth Workshop, Vienna, 24 August 2007) 7. This proposal has not yet been squarely addressed.

¹¹⁸ du Plessis, above n 69, 65.

¹¹⁹ For discussions of ongoing harm that extends into the future, in the context of reparations for slavery on behalf of African nations and African-Americans, see generally Brophy, above n 78, 55–8; du Plessis, above n 69, 69.

¹²⁰ Brophy, above n 78, 156.

¹²¹ Use of the 'developed world' as a category is appropriate as my description of the 'wrongdoer' is derived from an understanding of the collective. See, eg, du Plessis, above n 69, 56, arguing that, in the context of slavery and reparations claims made by African nations against 'the West':

the more appropriate description of the wrongdoer is also to be drawn from an understanding of the collective: the West, through governments, laws, courts, consumers, producers, economic ideology and institutions perpetrated and perpetuated the institution of slavery.

Similarly, the 'developed world', through governments, laws, consumers, producers, economic ideology and institutions, perpetrated and perpetuates the increases in carbon concentrations and attendant temperature rise resulting in increased severity of climate change.

wealthy countries on poor ones'.¹²² Generally speaking, researchers have found that there is a significant ecological debt owed to low-income nations from rich nations for various environmental consequences of human activity, including the disproportionate emissions of greenhouse gases.¹²³ Between 1850 and 2005, the developed world contributed approximately 75 per cent of the cumulative global emissions of CO₂.¹²⁴ The 27 countries comprising the EU have contributed 26.91 per cent of the world total while the US alone is responsible for 29.25 per cent.¹²⁵ The developed world may contest the time period for which they are responsible, arguing that they should not be responsible for emissions that occurred when they did not understand the consequences of those emissions.¹²⁶ However, one can make a strong argument that they understood the implications of increased carbon emissions at the time of participating in the *UNFCCC*, which for most developed countries occurred in the early 1990s.

The specific treaty obligations implied or explicitly enumerated for the Annex I, or developed, countries in the *UNFCCC* provide support for finding that these Western, developed countries, individually and as a class, are rightly subject to claims for reparations. Under the *UNFCCC*, the Annex I countries have additional obligations, including additional emissions reductions and promotion and facilitation of climate-friendly technology transfers because of the stark differences in their historic contributions to climate change.¹²⁷ The subsequent *Kyoto Protocol* reflects those special and additional commitments, not the least of which was the requirement that Annex I parties reduce their emissions to about five per cent below 1990 levels.¹²⁸

¹²² Cass R Sunstein, 'Irreversible and Catastrophic: Global Warming, Terrorism, and Other Problems' (2005–06) 23 *Pace Environmental Law Review* 3, 18. Without exploring the implications of his assertion, Sunstein further states that wealthy countries' obligations must be seen in this light.

¹²³ See generally Srinivasan et al, above n 19, 1768. The authors attempt to measure 'ecological debts' between nations and find that 'through disproportionate emissions of greenhouse gas emissions alone, the rich group may have imposed climate damages on the poor group that are larger than the latter's current foreign debt'. Srinivasan et al recognise that the values estimated are uncertain, but they 'nevertheless provide important information on the general magnitude and direction of the debts': at 1771.

¹²⁴ Ad Hoc Working Group on Further Commitments for Annex I Parties under the *Kyoto Protocol*, above n 4.

¹²⁵ *Ibid* 11.

¹²⁶ Cf Henry Shue, Senior Research Fellow, Centre for International Studies, University of Oxford, 'Historical Responsibility: Accountability for the Results of Actions Taken' (Technical Briefing Paper presented at the 'Technical Briefing on Historical Responsibility as a Guide to Future Action to Address Climate Change', Bonn, Germany, 4 June 2009), and my discussion of the no-harm rule below.

¹²⁷ See UNFCCC, 'Fact Sheet', above n 5, 3. See also Mathias Friman, 'Negotiating Historic Responsibility: Procedural Ethics' in *ClimateEthics.org: Ethical Analysis of Climate Science and Policy* (Blog, 6 April 2009) <<http://climateethics.org/?p=117>>. Friman elaborates on two framings of historic responsibility in the *UNFCCC*: causal and conceptual. The causal frame models historic contribution and stringently translates these calculations into obligations for climate change. The conceptual frames looks at present unequal distribution of capacity to act while taking into account historical responsibility.

¹²⁸ UNFCCC, 'Fact Sheet', above n 5, 4. Annex I countries as a whole (which includes the US and Australia) are on track to meet emissions reductions. However, that is not due to reduced emissions by those nations. Rather, post-Soviet economies in transition ('EITs'), namely in Eastern Europe, have reduced emissions by 37 per cent, effectively shielding the almost 10 per cent increase in emissions for non-EIT countries in the same period: at 4–5.

In addition to the UNFCCC, there are additional rules of liability that are relevant to the present climate predicament and provide a firm foundation for pursuing reparative efforts against the developed world. The no-harm rule, expounded upon in Verheyen and Roderick's exploration of a legal duty to pay compensation damage to vulnerable states,¹²⁹ is a principle of customary international law and has been used effectively in the environmental context.¹³⁰ In sum, the rule stipulates that one state must not harm another. It requires the prevention and minimisation of risk and creates a legal obligation before any harm has occurred.¹³¹ Further, it imposes a duty of conduct, for which an intent to cause harm is unnecessary.¹³² To determine if the duty of no-harm has been breached, one must evaluate the following criteria:

- 1 an opportunity to act;
- 2 foreseeability of the harm; and
- 3 the proportionality of the measures taken to prevent or minimise the risk.

On all three scores, developed countries have fallen far short.¹³³ Developed countries have had the opportunity to act by reducing their emissions. They have known of the effects of increased atmospheric carbon concentration at least since the early 1990s, and long before that for many major emitters.¹³⁴ Finally, they have failed to take proportionate measures to reduce excess emissions, remaining intransigent in negotiations for stricter emissions reductions. In fact, developed country emissions have risen at a *greater* rate after becoming aware of the importance of reducing emissions, posing an even sharper risk to all states, but especially those whose livelihoods are immediately and severely threatened.¹³⁵ Whether or not the no-harm rule provides adequate legal force, it provides a framework for appropriating responsibility, within which climate reparationists could pursue a persuasive claim.

Reparationists can determine the degree and share of responsibility in a number of ways,¹³⁶ and within a reparations frame, this can be done in a

¹²⁹ See Verheyen and Roderick, above n 33, 15.

¹³⁰ Ibid, citing the *Trail Smelter Arbitration (US v Canada)* (1938 and 1941) 3 RIAA 1906.

¹³¹ Verheyen and Roderick, above n 33, 15.

¹³² Ibid 16. In this way, the no-harm rule is parallel to a negligence standard, which is a fault-based rule, and requires only that a state's behaviour is contrary to a specific standard of care.

¹³³ See especially ibid 18.

¹³⁴ Ibid 18. Verheyen and Roderick argue that no state can claim that the risk of increased emissions was unknown or too remote after 1990: at 20. Failure to comply with the no-harm rule is an internationally wrongful act giving rise to an obligation to pay compensation, such that the state in breach owes the harmed state restitution: at 17.

¹³⁵ See Subsidiary Body for Implementation, UNFCCC, above n 24, 17; see also Verheyen and Roderick, above n 33, 20.

¹³⁶ See Verheyen and Roderick, above n 33, 22–3. The degree of responsibility might be determined by calculating the 'excess' emissions above the international average of per capita emissions, among other possibilities: at 22. For example, a state's relative contribution to the absolute tonnes of greenhouse gases emitted can be used to determine its share of responsibility: at 23. Verheyen and Roderick detail the possible methods for making these determinations: at 25–8.

collaborative manner.¹³⁷ Indeed, a call for collaborative repair would be neither naïve nor far-reaching. In a recent statement, EU leaders declared that countries should contribute financially to actions to mitigate and adapt to global warming, particularly in the least developed countries, and that the main principles for contribution should be the ability to pay and the responsibility for emissions.¹³⁸ Climate reparations would provide an agreed-upon framework for repair while giving voice to the climate vulnerable and moral force to their claims.

3 *What Form Should Climate Reparations Take?*

International law recognises three forms of reparation. The first — re-establishing the situation that existed before the wrongful act was committed,¹³⁹ meaning restitution in kind — is impossible in the climate change context. As discussed above, the impacts of climate change are irreversible and, as such, are forecasted to render communities and entire nation-states nonexistent, if not significantly impaired. Compensation, monetary or otherwise, is also an oft-used remedy, and is the second of the three recognised forms of reparation. The third is satisfaction. Satisfaction describes remedies other than restitution or compensation, and encompasses the aspects of repair — such as apology, truth-telling and non-repetition — that are of significant value in the climate context. It is a non-standard, although well-established, form of reparation and provides repair for injuries that ‘amount to an affront to the State’.¹⁴⁰ In this section, I discuss the possible forms of reparations for the climate vulnerable. Many are familiar, as they are based on the myriad existing proposals for aid that have not been executed adequately.

As mentioned above, an apology, some form of compensation and the guarantee of non-repetition would be the three essential elements of a successful reparations effort — though utilised in various degrees depending on the nature and extent of the harm. Indeed, ‘full reparation’ is accomplished through the flexible use of various reparative mechanisms and, to the extent one form is dispensed with or unavailable — as restitution in kind is in this case — the other methods become correspondingly more important.¹⁴¹

The apology is the first step in acknowledging the harm resulting from one’s actions; forgiveness may, in fact, depend on it.¹⁴² A sincere apology is a voluntary declaration in which the developed world *fully accepts* the responsibility of its excess emissions.¹⁴³ The process of apologising is a ‘communal’ one,¹⁴⁴ requiring communication between the wrongdoer and the victim. Most importantly, ‘the methods for offering and accepting an apology’, Martha Minow explains, ‘both reflect and help to constitute a moral community.’

¹³⁷ Council of the European Union, *Presidency Conclusions of the Brussels European Council* [2009] Doc No 11225/2/09 REV 2, [31].

¹³⁸ *Ibid.*

¹³⁹ International Law Commission articles on *Responsibility of States for Internationally Wrongful Acts*, GA Res 56/83, UN GAOR, 6th Comm, 56th sess, 85th plen mtg, Agenda Item 162, UN Doc A/RES/56/83 (28 January 2002) art 34.

¹⁴⁰ du Plessis, above n 69, 61.

¹⁴¹ *Ibid.*

¹⁴² Minow, above n 74, 112–14.

¹⁴³ *Ibid.* 115.

¹⁴⁴ *Ibid.* 114.

The apology reminds the wrongdoer of community norms because the apology admits to violating them'.¹⁴⁵ As such, it offers something that trials and monetary reparations cannot — a collaborative acknowledgement of violation and responsibility.¹⁴⁶

For the climate vulnerable, compensation and non-repetition require discussion of adaptation and mitigation efforts, respectively. Taking adaptation first, numerous formal and informal promises have been proposed to help increase the adaptive capacity of the climate vulnerable.¹⁴⁷ These efforts can be a form of compensation for the acknowledged effects of excess emissions to the extent that they are delivered in lump sum monetary transfers.¹⁴⁸ Adaptation measures, like insurance plans or technology transfers previously floated, are also methods of compensation. In short, the developed world could execute the many adaptation proposals and provide, without delay or distraction, the tens of billions of dollars needed to prepare the developing world. This would also allow developed nations to honour their self-imposed obligations. For example, as signatories to the *UNFCCC*, the developed world bound themselves to a number of adaptation provisions that are meant to reflect acknowledgement of the uneven burden of climate change.¹⁴⁹ Actual measures might include aid in improving the scientific capabilities and research capacity for the climate vulnerable, developing and diversifying economies and building durable

¹⁴⁵ Ibid.

¹⁴⁶ Ibid 112–14. Minow focuses primarily on acceptance of responsibility as the ‘hallmark of an apology’: at 115. While this is true, the collaborative and communal process also distinguishes apology from mere trials and monetary compensation.

¹⁴⁷ In the IPCC’s 2007 Fourth Assessment Report, the Panel defines adaptive capacity as ‘the ability of a system to adjust to climate change (including climate variability and extremes) to moderate potential damages, to take advantage of opportunities, or to cope with the consequences’: IPCC, ‘Summary for Policymakers’, above n 1, 15.

¹⁴⁸ Yet, calls for strict compensation have been outside the boundaries of international negotiations, thus inspiring comprehensive inquiries into the legal duty to pay: see generally Verheyen and Roderick, above n 33, 27–8. For high profile calls for climate justice through compensation for the climate vulnerable, see ‘Climate Change and the Poor’, above n 16, 58, which describes the appeal by Mary Robinson, former President of Ireland and UN High Commissioner for Human Rights, for a ‘rights-based’ approach to climate change that would allow poor countries some redress under international law for the environmental costs they suffer. Such rights-based redress may well be a part of a reparations package, but likely a small part because other key reparative measures, such as technology transfers, will be of immediate utility and likely preferred by the developed countries.

¹⁴⁹ See, eg, *UNFCCC*, above n 20: art 4(1)(e), which requires all parties to ‘[c]ooperate in preparing for adaptation to the impacts of climate change’; art 4(9), which obligates developed countries to provide financial and technical assistance to Least Developed Countries (‘LDCs’) for purposes of adaptation; art 3(5), which states that ‘the Parties should ... promote ... sustainable economic growth and development in ... developing country Parties, thus enabling them better to address the problems of climate change’. See also Conference of the Parties, *UNFCCC, Report of the Conference of the Parties on Its Seventh Session, Held at Marrakesh from 29 October to 10 November 2001, Addendum — Part Two: Action Taken by the Conference of the Parties, 7th sess*, UN Doc FCCC/CP/2001/13/Add.1 (21 January 2002) 43–5 (*Decision 7/CP.7 — Funding under the Convention*), an agreement between *UNFCCC* parties to establish the Special Climate Change Fund, LDC Fund and Adaptation Fund, with the combined purpose of assisting developing countries with technology transfers and adaptation planning, among other needs. See also Daniel Cole, ‘Climate Change, Adaptation, and Development’ (2007) 26 *UCLA Journal of Environmental Law and Policy* 1, 5–6.

infrastructure including dams, bridges, sea walls and levees.¹⁵⁰ The developing nations pursuing the reparations claim would ultimately decide the collection and combination of adaptive strategies pursued. In other words, it will be critical that the climate vulnerable have a primary role in designing their future ability to adapt. The tenets of community-based adaptation¹⁵¹ — that is, initiatives aimed at helping villages most at risk to launch projects with the money going to them rather than trickling down through global and national funds — will be paramount.

Adaptation, however comprehensive, will truly be a ‘quaint’ exercise if aggressive mitigation is not actively sought in good faith. Therefore, as a reparative measure, developed countries must actively seek to achieve emissions reduction cuts that would return the atmospheric concentrations of carbon to 350 ppm.¹⁵² Hansen et al find that ‘[p]reservation of climate requires that most remaining fossil fuel carbon is never emitted to the atmosphere’ and that the only realistic way to sharply curtail CO₂ emissions is to phase out the use of coal.¹⁵³ Hansen et al have further stated that ‘[p]resent policies, with continued construction of coal-fired power plants without CO₂ capture, suggest that decision-makers do not appreciate the gravity of the situation’.¹⁵⁴ Indeed, a continued growth of emissions for just 10 more years effectively eliminates the possibility of avoiding the tipping level for catastrophic effects for the entire globe, no longer just the climate vulnerable.¹⁵⁵ The political arguments claiming the infeasibility of this kind of rapid drawdown are not necessarily valid,¹⁵⁶ and in light of the consequences for the most vulnerable — indeed for all of humanity — intransigence is inappropriate because it exacerbates the initial harm. Ultimately, aggressive mitigation may well involve many other means of ratcheting down our carbon concentrations. The means for achieving this are somewhat irrelevant,¹⁵⁷ as long as that goal is pursued, again, aggressively and in good faith.

Good faith repair will also require a guarantee of non-repetition. As reparations scholar Pablo de Greiff says persuasively and succinctly, ‘reparative

¹⁵⁰ Brian Hurd, ‘Challenges of Adapting to a Changing Climate’ (2007) 26 *UCLA Journal of Environmental Law and Policy* 77, 86.

¹⁵¹ Lisa Friedman, ‘Bangladesh Needs the West’s Help, But Isn’t Waiting for It’, *ClimateWire* (US) 30 March 2009, available from <<http://www.eenews.net/cw>>.

¹⁵² See generally Hansen et al, above n 5, 226–9. The target of 350 ppm is suggested initially, ‘to be adjusted as scientific understanding and empirical evidence of climate effects accumulates’: at 229. Most reparations programs distribute multiple benefits: de Greiff, ‘Justice and Reparations’, above n 76, 467. It is important that the benefits internally support one another. Indeed, any reparations effort that does not result in aggressive mitigation alongside adaptation will lack integrity and coherence, which are vital elements of any reparations program so as to avoid reproducing and perpetuating an unjust social structure: at 467, 471.

¹⁵³ Hansen et al, above n 5, 226. The authors suggest a number of additional, smaller scale methods for achieving an appropriate and rapid drawdown of emissions, such as improvement of agricultural and forestry practices and carbon sequestration of soil or ‘biochar’, among other things: at 226–7.

¹⁵⁴ *Ibid* 229.

¹⁵⁵ *Ibid*. The timescale for pursuing the 350 ppm target is decades, as ‘it would be foolhardy to allow CO₂ to stay in the dangerous zone, [as it is now,] for centuries’.

¹⁵⁶ *Ibid* 227–8.

¹⁵⁷ It will, of course, be very relevant if the method used to draw down carbon concentrations creates or exacerbates other environmental and/or social risks.

benefits in the absence of reforms that diminish the probability of the repetition of violence are nothing more than payments whose utility, and furthermore, legitimacy, are questionable'.¹⁵⁸ Dangerous climate change, which is inevitable to a significant degree is already occurring in large areas of the globe: the US, for example, still manufactures cars, refines oil and produces pharmaceuticals (among other things) that are carbon-intensive. It cannot continue to do so in a carbon-intensive manner if it is truly committed to a reparations effort.

Much of the reparations package — and, indeed, what makes a reparations approach so unique and so necessary — will likely consist of measures of creative satisfaction like policy shifts that guarantee non-repetition. These tangible and often symbolic measures will be key for climate reparations. In addition to a formal apology and an acknowledgement of the severe breach of care for the global commons, particularly for the increased emissions that occurred after the early 1990s, the raising of public awareness, as a measure of satisfaction, is critical. Notably, in the US there is no significant discussion of the profound harm to which we have subjected millions, perhaps billions, of our global peers.¹⁵⁹ By raising the awareness of the perpetrators, with a sharp focus on the victims' side of the story, the reparations process can provide capital for what Max du Plessis calls the 'moral global economy', for which reparationists strive.¹⁶⁰

D *Function: The Benefits of a Reparative Approach*

The greatest value of a reparations effort is to centre the moral issues at the base and foster the key elements of a just state of affairs. For the most part, the developed world, and particularly the US, has not squarely confronted this dimension of the climate crisis. The process of confronting the moral challenge and the injustice of disproportionate impacts on the climate vulnerable may also produce an even greater reparative potential by galvanising greater enthusiasm and commitment to repair from individuals, communities and nation-states.

For both the developed and developing world, reparations can restore, or for once establish, trust in a just state of affairs. To date, the climate vulnerable have been relatively invisible, making the threats to their very existence even more haunting now. Using Pablo de Greiff's framework for 'reparations and justice', I now detail the way in which climate reparations can achieve three goals, all of which are 'conditions and consequences' of justice.¹⁶¹ In short, reparations for the climate vulnerable aim to recognise the humanity of each individual subject to the harms of excess emissions, foster civic trust between nations and manifest social solidarity.¹⁶²

Climate reparations can give names and faces to the millions that are most vulnerable. When confronting mass wrongs, it is necessary to recognise each affected person as irreplaceable and unsubstitutable rather than as members of

¹⁵⁸ de Greiff, 'Repairing the Past', above n 71, 11.

¹⁵⁹ There is also no mention of harm to future generations, who present a whole host of other moral challenges that are beyond the scope of this article.

¹⁶⁰ du Plessis, above n 69, 68.

¹⁶¹ de Greiff, 'Justice and Reparations', above n 76, 459.

¹⁶² *Ibid* 451–2.

groups, as important as groups might be.¹⁶³ One can also acknowledge another's humanity by recognising the ways that person is affected by the environment in which he or she lives; that is, a person is not only *subject* to his or her own actions, but is also the *object* of others' actions.¹⁶⁴ Further, not to acknowledge that one's actions impinge on another is unjust. In other words, as de Greiff explains:

there is a form of injustice that consists, not in illegitimately preventing her from exercising her agency through, say, the deprivation of liberty, but in depriving her of the sort of consideration which is owed to whoever is negatively and severely affected by the actions of others.¹⁶⁵

Reparations, through forms of satisfaction like truth-telling,¹⁶⁶ are a tangible form of recognition owed to fellow global citizens.

Building trust between the developed and developing world is a challenge at its most acute in the climate change context.¹⁶⁷ Utilising an alternative mechanism, like reparations, as an instrument of justice can establish or restore civic trust across borders.¹⁶⁸ Trust is the product of a mutual sense of commitment to shared norms and values,¹⁶⁹ such as taking responsibility for one's actions and recognising every person's right to a sound livelihood without threat from the negligent actions of others. To give flesh to the 'civic' of 'civic trust', I build on de Greiff's definition by adding a global element. In the climate context, civic refers to a disposition that can develop among strangers to one another who are members of the same global, political community. According to de Greiff, '[r]eparations, in summary, can be seen as a method to achieve one of the aims of a just state, namely, inclusiveness, in the sense that all citizens are equal participants in a common political project'.¹⁷⁰ This element of inclusiveness is true in the global discourse as well. Reparations, therefore, can demonstrate the serious commitment of the developed world and its citizens to establish or re-establish relations of equity and respect with the climate vulnerable. Without reparations, the climate vulnerable will have reason to suspect that even if other transitional mechanisms — such as measures under the *UNFCCC* and perhaps emerging legal claims — are applied with some sincerity, the 'new' society has been constructed on the shoulders of the climate vulnerable by ignoring the full complexity of their justified claims.¹⁷¹

Finally, the prerequisite to social solidarity is empathy and a willingness to assume the place of the contesting parties.¹⁷² Reparations can generate solidarity by manifesting the interest of the traditionally most advantaged (here, the

¹⁶³ Ibid 460. For example, it would be important to consider the life of every individual African among the 250 million that will suffer increased water stress within a decade.

¹⁶⁴ Ibid.

¹⁶⁵ Ibid.

¹⁶⁶ Truth-telling must be accompanied by tangible reparations, however, or they will be deemed empty gestures or cheap talk: *ibid* 461.

¹⁶⁷ See generally Roberts and Parks, above n 72.

¹⁶⁸ de Greiff, 'Justice and Reparations', above n 76, 461.

¹⁶⁹ Ibid.

¹⁷⁰ Ibid 464.

¹⁷¹ Ibid 463–4.

¹⁷² Ibid 464.

developed world) in the interests of the least favoured. The process of truth-telling, which also facilitates recognition, provides historical clarification to awaken the developed world's empathy with islanders and the poorest of the poor.¹⁷³ To the extent that the climate vulnerable feel that they are parties to a new 'social contract' in which their dignity and interests in livelihood are amply recognised, they too will consider common interests.¹⁷⁴ In other words, reasonable compromise in fashioning appropriate, tangible climate reparations, mindful of the resource constraints on both the developed and developing world, will result.

Of course, it is important not to overstate reparations' ability to serve as a total panacea and deliverer of justice and moral awakenings. For example, de Greiff warns that a reparations program alone is unlikely to generate social solidarity where there is none. Its success will rest upon pre-existing commitments. The general obligations of international law coupled with the specific obligations of the *UNFCCC* demonstrate that the climate dialogue has not occurred in a vacuum. In light of the state of the current climate discourse, however, any rigorous engagement of the morality and justice elements of the climate crisis will prove transformational. A well-crafted reparations effort can certainly serve as a catalyst.¹⁷⁵

IV A TEST CASE: SMALL ISLAND STATES V US

The world has an obligation to ensure that no island is left behind.¹⁷⁶

To test the feasibility of a reparations claim, I now explore the possibility of a reparations claim brought on behalf of small island nations against the US.¹⁷⁷ As envisioned, reparations claims would be coordinated, bilateral efforts between a nation or group of nations in collaboration with a major emitter or group of major emitters.¹⁷⁸ The goal would be the initiation of a process in which the harms caused by excess emissions are assessed and acknowledged, and then an apology, appropriate compensation and good faith commitment to non-repetition follow. The reparations effort would engage citizens of all states parties to come to terms with the harms that their lifestyles have created and actively participate in the creation of a new, just state of affairs.

¹⁷³ See *ibid.*

¹⁷⁴ *Ibid* 564–5.

¹⁷⁵ *Ibid* 465.

¹⁷⁶ Dessima Williams, Ambassador to the United Nations, Grenada; Chairwoman, Alliance of Small Island States, quoted in Anupreeta Das, 'Small Island Nations Demand More Emissions Cuts', *Reuters Africa* (Seychelles) 10 July 2009 <<http://af.reuters.com/article/seychellesNews/idAFN1051967320090710>>.

¹⁷⁷ I elaborate on the possible fora for these claims in a future piece on compensation for displacement of island states.

¹⁷⁸ See, eg, Alexander Gillespie, 'Small Island States in the Face of Climatic Change: The End of the Line in International Environmental Responsibility' (2004) 22 *UCLA Journal of Environmental Law and Policy* 107, 124, stating that the difficulty of climate change is that it must be dealt with on an incremental, 'state-to-state basis'.

Small island states are a discrete group of claimants. Despite their geographic dispersion,¹⁷⁹ they share a number of commonalities in addition to the risks posed by climate change. At the 1992 UN Conference on Environment and Development, Small Island Developing States ('SIDS') were recognised as a special case for both environment and development. Their 'small size, limited resources, geographic dispersion, and isolation from [international] markets'¹⁸⁰ make them vulnerable relative to current development markers. Further, they have been ecologically fragile,¹⁸¹ even disregarding climate change. With the onset of climate change damage, small island states have organised around the specific threats to their fundamental livelihood and existence. The AOSIS emerged as an entity, independent of either industrialised or developing country groups, in the lead-up to the *UNFCCC*.¹⁸² Indeed, the particular vulnerabilities SIDS face resulted in special recognition within the *UNFCCC* as well as advanced speaking rights,¹⁸³ and a special linkage to climate-related financial assistance.¹⁸⁴ Ironically, at the same time, as SIDS have felt climate impacts with greater ferocity, their influence in the international arena has waned significantly.¹⁸⁵

The threats posed by climate change to small islands fall into three broad categories. First, there are the physical impacts that SIDS are suffering, which will only become more severe. 'Sea-level rise is expected to exacerbate sea-water inundation, storm surge, erosion and other coastal hazards, thus threatening vital infrastructure, settlements and facilities that support the livelihood of island communities'.¹⁸⁶ For example, in Jamaica, 90 per cent of the

¹⁷⁹ There are small island states in the Pacific, Africa, Asia, the Indian Ocean and the Caribbean. They range in size from quite small, like Tuvalu and Barbados, to quite large, like the islands of Jamaica or Papua New Guinea: Tuiloma Neroni Slade, 'The Making of International Law: The Role of Small Island States' (2003) 17 *Temple University International and Comparative Law Journal* 531, 532.

¹⁸⁰ *Ibid* 538.

¹⁸¹ *Ibid*, citing Agenda 21, as contained in *Report of the United Nations Conference on Environment and Development*, UN Doc A/CONF.151/26/Rev.1 (Vol I) (12 August 1992) annex II (*Agenda 21*). Indeed, most SIDS face a great challenge meeting their sustainable development goals, irrespective of climate change. SIDS need 'specific assistance to meet economic, social and environmental problems that already affect them': Gillespie, above n 178, 107.

¹⁸² Gillespie, above n 178, 119.

¹⁸³ See art 4(8)(a) of the *UNFCCC*; Gillespie, above n 178, 120.

¹⁸⁴ Gillespie, above n 178, 121.

¹⁸⁵ See *ibid* 120, describing the diminished impact of the SIDS' advanced speaking rights. AOSIS proposals for compensation mechanisms have also fallen on deaf ears. See William C Burns, 'Global Warming — The United Nations Framework Convention on Climate Change and the Future of Small Island States' (1997) 6 *Dickinson Journal of Environmental Law and Policy* 147, 175. AOSIS, above n 117, 7, where it is said:

Where adaptation cannot fully address the impacts of climate change on countries and their communities, impacted countries are justified in seeking compensation from those countries most responsible for the greenhouse gas emissions that have led to these impacts.

¹⁸⁶ IPCC, 'Summary for Policymakers', above n 1, 15. For more recent assessments of sea level rise effects on Pacific atolls, see generally William R Dickinson, 'Pacific Atoll Living: How Long Already and until When?' (2009) 19(3) *GSA Today* 4; see also Francis X Hezel, 'High Water in the Low Atolls', *Micronesian Counselor* (Occasional Newsletter No 76, March 2009) 1, 2, describing impacts of inundation in Micronesia, particularly on food staples.

gross domestic product is generated within the coastal zone.¹⁸⁷ Worsening coastal conditions, through erosion of beaches and coral bleaching, are expected to affect local resources, like fisheries, and reduce the value of island destinations for tourism. For low-lying coral islands of the Pacific and Indian oceans, which, despite their small size, are densely populated, the lack of highland retreat is forcing entire peoples to consider abandoning their ancestral lands.

Indeed, ‘almost entirely as a consequence of policy decisions beyond their control’,¹⁸⁸ small island nations are among the most tragic victims of climate change. As briefly stated above, SIDS are also suffering from a weak voice in the international arena and the failure of the developed world to meet its obligations. This constitutes a second major threat to island nations. Whereas SIDS formally had special status to set the agenda that could influence mitigation goals and the stringency of emissions reductions, they are now limited to lobbying for paltry adaptation assistance.¹⁸⁹ With respect to emissions reductions specifically, island nations demand that developed nations agree to cut emissions by a minimum of 45 per cent of 1990 levels by 2020, to avoid an existential threat to many islanders.¹⁹⁰ Yet, the US is calling for — at the most — cuts of 17 per cent of 2005 levels by 2020.¹⁹¹ Developed world agreements will condemn certain island states to disappearance. And, according to Ronald Jean Jumeau, Permanent Representative for Seychelles at the UN: ‘If you ask [small island states] to sign on to certain targets now, you are asking us to sign a suicide note’.¹⁹² Indeed, the nature of the current legal situation has been described as ‘dire’ and a ‘battle ... already lost’ such that commentators suggest pursuing action in other international and political arenas outside of the UNFCCC.¹⁹³ At this point, some islands are benefiting to a degree from small aid packages that are ‘gratefully received’,¹⁹⁴ but those packages are emergency measures to provide immediate needs and do not assist long-range planning.

Adaptation planning is crucial for small islanders, yet the third threat faced by SIDS is the increasing inadequacy of adaptation measures to shield them from

¹⁸⁷ *Jamaica's Initial Climate Change Technology Needs Assessment* (Technology Needs Assessment Report submitted to the UNFCCC, 2006) 18 <<http://unfccc.int/ttclear/pdf/TNA/Jamaica/870.pdf>>. In fact, SIDS are the most at risk when losses, that is, economic damage from natural disasters linked to rising global temperatures over coming decades, are compared against GDP: Nathaniel Gronewold, ‘US and China Most Exposed to Costs of Climate-Related Disasters’, *ClimateWire* (US) 13 March 2009, available from <<http://www.eenews.net/cw>>.

¹⁸⁸ Burns, above n 185, 180.

¹⁸⁹ Gillespie, above n 178, 129: ‘In other words, the battle is already lost and the best approach for SIDS is to prepare for the inevitable rather than taking the lead at forcing mitigation. This retreat is regrettable as the climate future is open for capture’.

¹⁹⁰ Gronewold, ‘As World Cheers Climate Targets’, above n 116.

¹⁹¹ *Ibid.*, citing the House of Representative’s passage of the American Clean Energy and Security Act, HR Res 2454, 111th Congress (2009).

¹⁹² *Ibid.*

¹⁹³ See, eg, Gillespie, above n 178, 122, 128–9, who proposes alternatives for legal redress under the *Universal Declaration of Human Rights*, GA Res 217A (III), UN GAOR, 3rd sess, 183rd plen mtg, UN Doc A/RES/217A (III) (10 December 1948) and the *Report of the United Nations Conference on the Human Environment*, UN Doc A/CONF.48/14/Rev.1 (1 January 1973) ch I (*Declaration of the United Nations Conference on the Human Environment*) (*Stockholm Declaration*).

¹⁹⁴ Hezel, above n 186, 19.

the full brunt of climate change.¹⁹⁵ For some countries, such as the Maldives and Tuvalu, it is clear that civil engineering cannot address the level of vulnerability that they face.¹⁹⁶ Further increased emissions will likely lead to an eventual sea level rise in the order of metres, ‘implying unavoidable inundation of many small islands and low-lying coastal areas’.¹⁹⁷ Large-scale migration of these communities will likely be inevitable; and as social scientists posit, this will be the movement of people who are rushed, unwanted and unprepared, into unfamiliar and perhaps hostile new environments.¹⁹⁸ Indeed, as Edward Cameron, a former senior adviser to the Government of the Maldives, describes it: ‘This will be the largest migration in history. This is not migration as we’ve known it before ... we’re talking about people migrating from sensitive places into other very sensitive places’.¹⁹⁹ Whether it is resettlement or total inundation, for small islanders climate change is an issue of survival.

The US, as the single greatest historical emitter and one of the top two emitters today, as well as the most intransigent major emitter in climate negotiations at all scales, is a viable subject of a climate reparations claim.²⁰⁰ The US is a signatory of the *UNFCCC*, and as a party to the treaty is expected to perform its obligations in good faith.²⁰¹ It will be quite easy to provide substantial evidence of US failure to make even a reasonable effort to meet the objective of the *UNFCCC* — from its failure to sign the *Kyoto Protocol* to its intransigence on both the national and international scale to date.²⁰² Indeed, the continued failure of the US to set scientifically-based, near-term reductions demonstrates an ongoing disregard for a general standard of care, above and beyond its early failure to aim for the goals set out in the *UNFCCC*.

Adding to the weight of claims by small islanders against the US, in particular, is the relative interests at stake. The moral dimension of the climate crisis is at its greatest when one considers the plight of small islanders, who are struggling for survival, vis-à-vis the source of US ‘excess’ emissions. As Simon Caney has argued extensively, the climate-endangering activities of the highly affluent do not for the most part constitute fundamental interests that impose

¹⁹⁵ See Sue Wells and Alasdair Edwards, ‘Gone with the Waves’ (1989) *New Scientist* 47, 47, on the critical importance for low-lying nations of planning and preparing for inundation within the next 50 years, if such nations are to survive.

¹⁹⁶ *Ibid.* 48. Indeed, the discussion for many of the Pacific and Indian Ocean island nations surrounds issues of resettlement. See also Solomon et al, above n 7, 1708: sea walls and other adaptation measures might not be sufficient, because many coastal and island features would ultimately be submerged. For further discussion of climate migration, see Friedman, ‘Facing the Spectre’, above n 18.

¹⁹⁷ Solomon et al, above n 7, 1704. Even at the current concentration of atmospheric carbon, sea level rise will be 5–6 ft by the end of this century, which is two or three times higher than the 2007 IPCC Fourth Assessment Report projections: Morello, above n 11.

¹⁹⁸ See Friedman, ‘Facing the Spectre’, above n 18, describing the Maldives and small islands in the Pacific as the ‘worst migration cases’.

¹⁹⁹ *Ibid.*

²⁰⁰ For a discussion of the significance of US patterns of consumption and carbon intensity, see Burkett, ‘Just Solutions’, above n 94, 194–5.

²⁰¹ Burns, above n 185, 182, citing *Vienna Convention on the Law of Treaties*, opened for signature 23 May 1969, 1155 UNTS 331 (entered into force 27 January 1980) art 26.

²⁰² Andrew Burger, ‘US at Bottom of G8 Emissions Reduction/Climate Change Action Rankings’, *Environmental News Network* (US) 2 July 2009 <<http://www.enn.com/climate/article/40158>>.

obligations on others.²⁰³ Supporting oneself — by growing crops and engaging in other ‘essential activities’ — is a fundamental interest. Caney contends that:

persons are entitled to the protection of their fundamental interests from the harmful effects of global climate change and it is unjust for other persons to act in ways which would leave people’s fundamental interests at risk from the changing climate.²⁰⁴

Americans continue to engage in high-emissions activities that they could curb to meet the obligations imposed by the fundamental interests of islanders, without compromising their own fundamental interests.²⁰⁵ US intransigence in acting with appropriate speed and commitment presents a grave moral collapse.

In spite of this obstinacy, or perhaps because of it, the most viable reparative approach will be one of collaboration. SIDS can call for US participation in a bilateral negotiation to determine the course and content of a reparative effort. Clearly, the power disparity suggests that the success of the negotiations will be almost entirely determined by US willingness to engage. Yet, this kind of negotiation is not a naïve proposition. In fact, the US at the federal level is now addressing the climate crisis with unprecedented political activity.²⁰⁶ That fervour suggests that its participation in a climate reparations claim is plausible. Further, state and regional initiatives have shown an embrace of carbon-reducing initiatives, demonstrating that there is a significant degree of political will at the sub-national scale. These domestic developments can be a springboard for cultivating a reparations mindset at the national level.

As the push for a low carbon future trickles up from the sub-national level and is coupled with a coordinated effort for acknowledgement at the national level, the key elements of repair and reconciliation can follow. The apology, again a communal process of acknowledgement of violation and responsibility, will present the highest hurdle. A process of truth-telling, through which Americans are made aware of the impacts of their carbon-intensive lifestyle on the climate vulnerable, will be critical. The American public, through hearings for its decision-makers,²⁰⁷ would benefit from a thorough accounting of current and

²⁰³ See Caney, above n 92.

²⁰⁴ Ibid 259.

²⁰⁵ Ibid 262–3. Caney suggests cutting back on energy-inefficient cars, reducing the volume of air travel, eliminating poor building insulation, decreasing transportation of goods and using renewable energy sources.

²⁰⁶ John Broder, ‘With Something for Everyone, Climate Bill Passed’, *New York Times* (New York, US) 30 June 2009; US Department of Transportation, ‘Cash for Clunkers Wraps Up with Nearly 700,000 Car Sales and Increased Fuel Efficiency, US Transportation Secretary LaHood Declares Program “Wildly Successful”’ (Press Release, 26 August 2009); John Broder, ‘Obama Opposes Trade Sanctions in Climate Bill’, *New York Times* (New York, US) 28 June 2009; President Barack Obama, ‘Remarks by the President on Jobs, Energy Independence, and Climate Change’ (Speech delivered at the East Room of the White House, Washington DC, 26 January 2009); President Barack Obama, ‘Appliance Efficiency Standards’ (Memorandum for the Secretary of Energy, 5 February 2009); Carl Pope, ‘Who Is Getting It Done?’, *The Huffington Post* (New York, US) 23 February 2009.

²⁰⁷ This is one of many possible means of disseminating information and encouraging wide-ranging discourse on climate impacts in the US. The other major avenue, of course, would be through the media: conventional print, television and the internet.

forecasted changes and the consequences of inaction, including the tangible likely security and welfare risks.²⁰⁸

With respect to compensation and non-repetition, the US would make great strides by simply building on the self-imposed obligations made to the climate vulnerable in the *UNFCCC*. As discussed above, parties to the *UNFCCC* pledged to provide assistance to the nations most likely to be severely affected by climate change.²⁰⁹ The US might also engage in an insurance proposal, like that proposed in 1991 by the AOSIS.²¹⁰ That compensation scheme called for the establishment of an International Climate Fund to address the adverse effects of climate change and an International Insurance Pool to provide financial assurances against the effects of sea level rise.²¹¹ Details of methods of funding, classification of types of loss and entitlement criteria, for example, were left unresolved.²¹² As part of a climate reparations effort, the US and SIDS could hammer out the specifics, having already established US responsibility and allowing a platform for SIDS to create their own preferred future. Most important, however, is that the US honours and adheres to the aggressive emission reductions that small island nations demand.²¹³ In so doing, the US would commit to a new kind of future in which its development choices do not compromise the most vulnerable. This would address the vital element of non-repetition.

If Americans grapple with the existential threat to peoples and cultures, having placed themselves in the conditions of the disempowered climate vulnerable, they might well, as a nation, seek a just state. At the conclusion of an effective journey through a reparations effort, rapid drawdown of carbon emissions will be seen less as sacrifice and instead as a necessary inconvenience, if not a welcome means of ensuring a just future.

V CONCLUSION

The past several decades of legal wrangling and ineffective climate negotiations do not bode well for a climate reparations process. Yet in the absence of that frame the world continues to ignore fundamental moral issues, the valid perspective and immediate needs of the climate vulnerable, and risks the collapse of international cooperation. Pursuing climate reparations at the international level provides a tested means for victims to engage perpetrators in a manner that is collaborative in approach and comprehensive in resolution. It also provides a method of healing and building of social solidarity — both of which

²⁰⁸ Like the scenario Atiq Rahman contemplates, climate change will at some point force the developed world and the climate vulnerable to engage. Some US citizens have already recognised the security risk dimension of climate change: see Rahman's remarks in Roberts and Parks, above n 72, 2; Military Advisory Board, CNA Corporation, *National Security and the Threat of Climate Change* (CNA Corporation Report, 16 April 2007). Contemplation of these tangible consequences should not happen to the exclusion of the moral challenge at base.

²⁰⁹ See above, Part III(C).

²¹⁰ See Verheyen and Roderick, above n 33, 27–8.

²¹¹ *Ibid.*

²¹² *Ibid.*

²¹³ First and foremost, the developed world must 'state that their emissions have now peaked': Connie Hedegaard, Denmark's Minister for Climate and Energy, quoted in Gronewold, 'As World Cheers Climate Targets', above n 116.

are increasingly essential as the globe collectively confronts uncharted environmental threats. The stated ethos of the Obama Administration provides some glimmer of hope. Regaining — or gaining — moral stature in the world has been an early goal, and the Administration can achieve that in the climate context if it comes voluntarily to the table with the climate vulnerable, and brings the humility required to acknowledge responsibility and actively participate in repair. Island nations have vowed to do everything that they can, as a matter of survival. It would behoove us all to follow suit.