

2022 Heilbron Lecture

Climate Change, and the Radical Potential of Outrage to Advance the Frontiers of Law

Introduction

Thank you, Sheriff Gowman, for that kind introduction, and to Dana and the Next 100 Years Initiative for inviting me to speak as part of this prestigious Lecture series. It is a tremendous honour to be speaking in a lecture series named after the extraordinary Dame Rose Heilbron, and to follow Kirsty Brimlowe Q C, and Law Commissioner Professor Sarah Green, who delivered the previous lectures in this series. These are inspirational women who have many ‘firsts’ to their credit, and who have paved the way for generations of women to come.

Even as we have begun to recognize, in however nascent and hesitating a fashion, the enormous contribution that women have made to the law, and to public life, there are still countless other women on whose shoulders we stand, whose achievements went unnoticed, and whose voices were heard only by their families. I take great pride in the women in my family – my mother, a single parent who raised two children while holding office as a civil servant in India, my grandmother who was an Inspector of Schools in Madurai, and my great grandmother who was Post-Mistress in Martandam, South India. These women were pioneers – they battled their families and society to work, to educate their daughters and teach them to be self-reliant, at a time when it was considered a disqualification for women of a certain class to be educated and self-reliant. They interrupted dominant social, cultural, and patriarchal narratives.

It is such women who through the challenging lives that they led, and their daily acts of care, compassion, courage, and interruption, have enabled the generations that come after to shine just a little brighter than they could. And, to all these women – recognized and unrecognized - we owe an enormous debt of gratitude. Our achievements are a product of their choices, sacrifices and even discomfort. I am heartened and delighted that the next 100 Years initiative is seeking to platform and champion women in the law. The next 100 years will surely be better for us than the last.

The title of my talk today is ‘Climate change, and the radical potential of outrage to advance the frontiers of law’. I will speak to the intractability of the climate change problem, the limits of existing international law in addressing this civilizational challenge, and the radical potential of outrage in confronting and advancing the boundaries of law. Outrage at the state of our planet, the bleak future we are bequeathing to our children, and the unfairness at the heart of this problematic – within and across generations.

I would like to begin however by stepping back and locating myself as an environmental law scholar. We are all connected to our environment in many ways. I draw sustenance from it daily - whether it is the dawn chorus that I wake up to, the magnolias in full bloom in the spring in my back garden, or the uplifting buttercups in Port meadows as I walk to work.

Even though I was raised in the southern Indian metropolises of then-Madras, and Bangalore, the fragments of memory that make up my childhood are set against the glorious natural landscapes of India – the petrichor as the first monsoon rains hit the parched earth after a searing summer, the coconut trees swaying in the sheets of rain as my train whizzed past carrying me to my cousins in Tuticorin for the summer vacations, the imposing Himalayas shrouded in cotton-candy clouds, and the thundering waterfalls we stood under as children.

But the environment is also a source of enormous anxiety to me – given our tenuous hold on nature, how much we’ve taken it for granted in our pursuit of a materialistic life, and how rapidly much of what we love and enjoy about our environment is changing beyond recognition.

I lived in Delhi for several years as an adult - a sprawling, beautiful and historic city teeming with culture, art, and yes, even nature - a green city once filled with one of the largest urban bird populations in the world. Kites that swept down from the towering trees in Lodhi gardens to snatch pieces of food from my then-toddler’s fingers, parrots that brightened the early morning hours with their antics, and the sparrows that flitted about on sunlit balconies. Delhi is today the world’s most polluted capital city - the kites and parrots are few and far between, and the sparrows have all but disappeared. It is a city that I sadly had to leave to protect my lungs, and to allow my child’s lungs to grow.

The Covid crisis these last few years has also been a stark reminder to me of our profoundly altered relationship with the natural environment. It has underscored the consequences of biodiversity loss and ecosystem degradation for human health, well-being and survival, and indeed for the day to day mechanics of our life – all of which changed dramatically in March of 2020. I see it as an omen of things to come on the climate.

It is this acute anxiety I feel over our rapidly changing environment that fuelled my interest in the law. Can law and regulation protect our environment? Can law protect us from humankind's excesses? Can it protect us from ourselves?

I've spent my career seeking to answer this question in relation to the threat of climate change, characterized as the 'defining issue of our age' (former UN Secretary-General Ban Ki Moon), 'humanity's greatest threat in thousands of years' (Sir David Attenborough), and the issue 'that will define the contours of this century more dramatically than any other' (former US President Barack Obama).

The Science

Successive reports of the Intergovernmental Panel on Climate Change have demonstrated that climate change is real, its impacts are discernible, and that it is occurring ever faster and in more devastating ways than once predicted.

The Sixth (and latest) Assessment Report of the Intergovernmental Panel on Climate Change (2021-2022) found that: '[i]t is unequivocal that human influence has warmed the atmosphere, ocean and land.' And 'the scale of recent changes across the climate system' ... 'are unprecedented over many centuries to many thousands of years.' The global average surface temperature is already 1.1°C warmer than the pre-industrial period, and ten of the warmest years on record have occurred since 2005.

Such climate change is causing 'increased heatwaves, droughts and floods' - heatwaves are sweeping through the US and South Asia at the moment - all of which are 'driving mass mortalities in species such as trees and corals.' Indeed, many scientists fear that a sixth mass extinction of species is underway - one million plant and animal species are likely to disappear

– forever changing the world we leave to our children. Scientists tell us we are already at various natural ‘tipping points’ – beyond which environmental harms get exponentially worse – threatening the health and even the ultimate survival of humanity.

And, as these devastating impacts are unfolding – as heatwaves spread across the world, glaciers melt, islands sink, wildfires rage and storms and floods ravage the earth - ‘GHG emissions have continued to rise’. Indeed, ‘average annual GHG emissions during 2010-2019 were higher than in any previous decade.’ (NASA, Climate).

This is a damning indictment of the international community that seems to be as many have noted, ‘fiddling as the world literally burns.’

The central and resounding message across a slew of scientific reports is that current patterns of production and consumption, population growth and technological development are unsustainable. Full stop.

In the absence of transformative change involving all states, sectors of the economy, and across the full gamut of stakeholders and actors, irreversible and unprecedented environmental harm will be unleashed on the planet.

Margaret Atwood, in the eerily prescient *MaddAdam trilogy (2005)*, asks the ever-pressing questions at the core of our current environmental crisis: ‘[w]hat if we continue down the road we’re already on? How slippery is the slope? What are our saving graces? Who’s got the will to stop us?’

Sovereign states? Us?

As the science has become more certain, and the impacts more tangible, the issue of climate change has climbed up the political agenda. The UN climate change negotiations, launched in 1990, attracted a handful of heads of state and a few thousand participants in its early years, but today attracts more heads of states than any other multilateral treaty process. The 2015 Paris conference attracted 150 heads of state and 38,000 participants. The 2021 Glasgow conference, held in the middle of the Covid crisis, attracted 120 heads of state and 25,000 participants.

Notwithstanding its increasing political salience, the issue of climate change has still proven remarkably resistant to resolution.

Intractability of the Climate Change Problem

Why? Why has climate change proven to be such an intractable problem?

Because it is, what has come to be characterized in the literature as a ‘super wicked’ policy challenge.

Climate change is caused by a wide range of production and consumption processes. Its causes and effects are global and require complex collective action. It can be addressed only if all the major GHG emitters are willing to undertake potentially costly, large-scale transformations in their economic and energy systems. Yet, since the benefits of climate change mitigation are shared by the international community as a whole rather than just the countries that take action, the major emitters have little incentive to act on their own.

Moreover, such transformations require buy-in from citizens - from all of us - and a willingness to modify behavioural patterns, adjust lifestyles, and rethink development aspirations. It demands change and sacrifice.

Climate change has consequences for economic and social development, energy access and use, agricultural practices, mobility, and urban planning. It has implications for what we aspire to, how we get to work, what we drive, how we grow our food, where we grow the food that we eat, what we eat, how we travel, where we holiday. We need to rethink these – in systemic terms, and to make ‘all of society’ changes to address it.

Yet many states are reluctant to make the necessary ‘all of society’ changes to address it. As erstwhile US President, George Bush Senior, famously declared in 1992, the ‘American way of life is not up for negotiation. Period’, and so it has proven. The US withdrawal from the Kyoto Protocol during the Bush years, and its withdrawal from the Paris Agreement during the Trump years are examples of this. In former US President Trump’s words, ‘[t]he Paris accord

would undermine our economy, hamstringing our workers, weaken our sovereignty, impose unacceptable legal risks, and put us at a permanent disadvantage to the other countries of the world. It is time to exit the Paris accord.’

While the US is back - again - to the UN climate fold - the lingering, politically consequential vein of climate scepticism and denial, fuelled by powerful lobbies, remains a threat to meaningful climate action. And, not just in the US. Australia’s emissions continued to rise under the previous Conservative government, with its regressive climate policies. In both countries, there are signs of hope that electoral swings, at least in small part because of positions on climate change, will lead to more ambitious action, but it remains to be seen how far these political changes will trigger ‘all of society’ transitions.

Scepticism is rife in some developing countries as well – in the last three years in Brazil, under the Bolsonaro government, there has been an alarming increase in deforestation (by some estimates up to 34%) in the Amazon rainforest, and a 10% increase in GHG emissions from forest fires.

In other developing countries, even if not fuelled by climate scepticism, there is limited buy-in for costly transformations that bear significant **opportunity costs** in terms of investments in poverty eradication, energy access, and other developmental and infrastructural needs.

Finally, at the irresolvable core of international climate politics is the issue of equity and fairness: between and within developed and developing countries; between those responsible for triggering climate change and those on the frontlines of its impacts; and between our generation and the ones to come.

States have fundamentally different national circumstances, resources, GHG emissions profiles, and vulnerabilities, and therefore differing views on fair burden-sharing. Historically the vast majority of cumulative CO₂ emissions from 1850 to today have been emitted by developed countries. The US alone is responsible for 20% of all CO₂ emitted since 1850 and is responsible for about 0.2C of warming. Yet, annual emissions from developing countries are over 60% of the total global CO₂ emissions, and emissions from large developing countries are

projected to keep rising. In 2005, China surpassed the US as the world's largest annual emitter of CO₂. Between 2000 and 2015, emissions from developing countries increased by 79% while emissions from developed countries fell between 1990 and 2019 by 14.8%.

Climate change, clearly, cannot be effectively addressed without ambitious mitigation action from major developing countries. In any case since much of the infrastructure in developing countries is yet to be built, there are opportunities for avoiding carbon lock-in.

Many developing countries, however, have low per capita emissions, and these are likely to grow to meet their social and development needs. India's per capita CO₂ emissions at 1.8 tonnes is significantly below the US average of 15.2 tonnes. China's per capita emissions of 7.4 tonnes exceeds those of the EU at 6.4 tonnes, but both remain significantly below US per capita emissions.

Further, notwithstanding some blurring of the lines between the categories of developed and developing countries, there are persistent inequalities between those living in developed and developing countries. And many developing countries have yet to provide energy access to all their citizens.

An estimated 940 million people, 13% of the world's population, do not have access to electricity, and Covid increased the number of people without access to electricity by 2% in 2021 (IEA, WEO, 2021). For many developing countries, the burden of addressing energy poverty is crippling. While they can do so in sustainable ways, there are significant cost implications.

Another critical dimension of the equity debate is that the countries primarily responsible for causing climate change are not the ones that will be most adversely affected. Small island states, for instance, that have begun to lose their territories to rising sea levels, have a compelling reason to act. Yet since their GHG emissions are inconsequential, their actions will have no impact on the trajectory of warming, and they have little apart from the moral high ground as leverage in negotiations that often descend into secret deals between major emitters. The Organization of Petroleum Exporting Countries (OPEC), on the other hand, that are economically dependent on fossil fuels and have high per capita emissions, have compelling

reasons, at least in the short term, for inaction and obstructionism in the climate change negotiations.

A final crushing unfairness at the heart of the climate change problematic is intergenerational unfairness. We are leaving not just a ravaged world to our children, but also the overwhelming burden of addressing environmental harms that we've created.

It is this seemingly irresolvable and intractable problem that the community of sovereign states - with differing incentives, motivations, priorities, drivers, political and legal cultures – has been seeking to address over the last three decades. And, in the process the limits of existing international law in addressing this civilizational challenge have become all too evident.

If climate change is indeed the 'defining issue of our age' then our response to it will define us as a civilization. Our response to it so far, however, is a withering comment on our civilization.

Limits of the International Climate Change Regime

Although the international community has been in negotiations for over three decades and agreed on three legally binding instruments – the 1992 Framework Convention on Climate Change, the 1997 Kyoto Protocol, and the 2015 Paris Agreement – these instruments have at best made a dent in 'business as usual'.

The international climate change regime - a product of a consensus based decision-making process among states deeply protective of their autonomy – is located in the sweet spot between the criss-crossing red lines of States, and so has perhaps inevitably settled at the least common denominator. It is fundamentally limited in at least four ways:

First, rather counter intuitively, the international climate change regime does not oblige states to take specific GHG emissions reduction targets and achieve them. The 2015 Paris

Agreement places a binding procedural obligation on states to submit ‘nationally determined contributions.’ A few things to note about this obligation. The contributions or targets are nationally determined not multilaterally negotiated, and states are given considerable autonomy in determining and setting these targets for themselves. There is no mechanism to review the adequacy of national contributions in relation to either their ambition or fairness. And, there is no obligation of result attached to the national contributions that states take on, so they are not obliged to achieve the contributions they choose for themselves. Such national autonomy, has, not surprisingly, resulted in national contributions that do not add up to what is necessary to achieve the ‘purpose’ of the Paris Agreement – to hold temperature increase to ‘well below 2°C’ and strive towards 1.5°C. The first round of national contributions put us on track to an over 3°C temperature increase. The current contributions place us on a pathway to 2.4°C temperature rise. To be clear these are promises at this point, and projections based on promises. Under current policies, the global average temperature is set to increase by 2.7°C (Climate Action Tracker, 2021).

The IPCC’s latest report made it clear that given current emissions trends, even with deep cuts to 2030, an ‘overshoot’ is almost inevitable i.e., temperatures will exceed 1.5°C before (we hope) coming back down.

Second, the international climate change regime does not contain a mechanism to generate accountability for the targets that states have chosen for themselves. Although states are required to provide information with their national contributions, they can choose the informational requirements that apply to them. There is a transparency framework which requires states to provide information necessary to track progress in achieving their national contributions. But the transparency framework was carefully negotiated to exclude a robust review function. The accountability for targets taken and their achievement thus far has been demanded and checked by non-state actors from outside the formal UN climate regime.

Third, the international climate change regime contains very limited avenues for fairness and equity concerns to be addressed. A central question in the negotiations right from the start has been how to fairly share the burden of addressing climate change. What is each country’s fair share, and how can we ensure that each country is doing its fair share? This is a deeply contentious question, and in the interests of reaching consensus, the Paris Agreement side-steps

this question, and deliberately leaves only a few carefully curtailed avenues for issues of equity and fairness to be raised.

The first avenue: states are encouraged to explain when they submit their contributions on how their contribution is fair and ambitious. Needless to say, States offer self-serving narratives of fairness. For instance, over 110 states argued that their targets were fair because their GHG emissions constituted a small share of the global total. If you add these up, however, it amounts to over a 1/3 of global GHG emissions. Fairness in the climate regime, like ambition, is self-determined.

The second avenue is the ongoing ‘global stocktake’ under the UN climate process – an assessment of collective progress towards the long-term goals of the Paris Agreement, including the temperature goal. The Paris Agreement requires this stocktake to be undertaken in the light of equity. However, it is unclear, given the stocktake engages in an assessment of collective rather than individual commitments and progress, how it will translate into fairer contributions from states.

Fourth and finally, there is a fundamental mismatch in the international climate regime between promises made and promises kept in relation to support - an implementation gap, as it were. The vast majority of the national contributions submitted by developing countries are contingent on the provision of financial support, yet there is limited finance available for this. Developed countries had pledged in 2009 to mobilize 100 billion US\$ per year by 2020, but in Glasgow in 2021, they acknowledged, ‘with deep regret’ that this promise could not be kept. And 100 billion US\$ per year is only a fraction of the finance required to meet the 1.5°C temperature goal. The International Energy Agency predicts that putting the world on track to 1.5°C requires ‘annual investments in clean energy projects and infrastructure to nearly 4 trillion US\$ by 2030’ (World Energy Outlook, IEA, 2021). And the IPCC’s Sixth Assessment Report found that current levels of finance were 3 - 6 times below what is needed for a 1.5°C or even a ‘well below 2°C’ pathway.

It is clear then that international law has not advanced apace with the science, the political will that animates the climate change regime ebbs and flows, compromises are reached through constructive ambiguity that often allows issues to fester, and progress is so slow and

incremental that the narrow window left to avert the most dangerous climate change is nearly closed.

The Radical Potential of Outrage in Advancing the Frontiers of Law

The world has arrived at biosphere tipping points – the edge of a precipice, beyond which lies irreversible environmental harm that fundamentally compromises life support systems. Despite this state of ‘planetary emergency,’ there are clear limits to what the current architecture of international law - hostage to national will and politics - can do and can be expected to do. If international law is to do more, it must move beyond the constraints of the current architecture and framing and embrace a fundamental reconceptualization of existing models of governance, whether economic, political, social, or legal. Fundamental realignments, at the scale required, demand imagination – imagination that is both outrageous, and fuelled by outrage.

Outrage can be epistemically productive. Outrage generates knowledge about and focuses attention on unfairness, indeed it prevents unfairness from becoming invisibilised as harm.

Outrage builds support, fosters solidarity, and thrives on passion and connection.

It is outrage that we hear in the searing words of Mia Mottley, the Prime Minister of Barbados, ‘[w]e refuse to be relegated to the footnotes of history’ she says, ‘and to be collateral damage for the greed of others...’.

It is outrage we hear in the words of Hubert Minnis, Prime Minister of the Bahamas, ‘[s]mall island countries ... are on the frontlines of being swallowed into an abyss, created initially by human activity and increasingly by inaction.’

It is outrage we hear in the words of Vanessa Nakate, Youth Activist from Uganda as she draws the eyes of the world to the loss and damage suffered as a consequence of climate change, ‘[y]ou cannot adapt to lost cultures, you cannot adapt to lost traditions, you cannot adapt to lost history, you cannot adapt to starvation. You cannot adapt to extinction.’

And it is outrage that we hear in the words of Greta Thunberg, ‘[w]e deserve a safe future. And we demand a safe future. Is that really too much to ask?’

It is outrage that galvanizes children to strike school, investors to divest from fossil fuels, and activists to occupy oil rigs, block fossil fuel extraction, glue themselves to stock exchanges, tunnel under rail construction lines and fly drones into Heathrow airport.

It is Outrage.

Outrage can also be legally productive. Outrage has triggered a gathering storm of cases, many experimental and pushing the boundaries of law, before national, regional, and international courts. These cases challenge governments for insufficient ambition, for doing far less than their ‘fair share’, and for passing the burden of action on to future generations. They even challenge fossil fuel companies for failing in their duty of care.

While many of these cases have failed, often on procedural grounds, some of the creative arguments advanced by litigants – on a wing and a prayer – are beginning to find their mark.

In the milestone *Urgenda* (2019) case, the Dutch Supreme Court, approached by the Urgenda Foundation and 900 citizens, found the Dutch government’s climate ambition inadequate and ordered the State to do its ‘fair share’ and reduce emissions at least 25% in 2020 compared to 1990.

In the *Neubauer* (2021) case, the German Federal Constitutional Court ordered Germany to enhance its climate ambition since ‘fundamental rights - as intertemporal guarantees of freedom - afford protection against ...greenhouse gas reduction burdens... being unilaterally offloaded onto the future.’

Interestingly experimental cases against fossil fuel companies are also beginning to enjoy early successes in court. In the fascinating case of *Millieudefensie* (2021) the Hague District Court ordered Shell, a non-state actor, to reduce its emissions by 45% by 2030, relative to 2019, holding that Shell had a duty of care to reduce its GHG emissions, given the science and Paris Agreement.

And there are many potentially pivotal cases in the pipeline, brimming with innovative legal arguments.

At the international level, the small island state of Vanuatu, the world's most 'at risk' country for natural hazards, battered by category 5 cyclones, is spear heading a campaign to seek an Advisory Opinion from the International Court of Justice on the responsibilities of states in relation to climate harm. Surely, the international climate change regime, with its fundamentally limited and limiting approach is not the last word on the responsibilities of states in relation to the climate harms they unleash on others? There is a tapestry of interlocking international obligations and norms including but not limited to the UN climate change regime – what do these tell us about the rights and responsibilities of States in relation to climate harms? A question we don't yet have a conclusive answer to, and the ICJ could provide us a definitive and compelling response.

At the regional level, a group of angry young Portuguese climate activists have brought a case in the European Court of Human Rights, *the D'Agostinho case*, demanding that 33 countries across Europe increase their climate ambition, as they are not doing their 'fair share' to address climate change.

And, at the national level, *Luciana Lluyia v RWE*, pending in the German Courts, is trialling another boundary-defining legal argument. A Peruvian farmer living in Huaraz, Peru, has filed claims for declaratory judgment and damages in the District Court in Essen in Germany against RWE, Germany's largest electricity producer, arguing that by emitting large quantities of GHGs, RWE bears some measure of responsibility for the melting of mountain glaciers near his town of Huaraz.

Needless to say, these cases are few and far between, and even where they do advance the frontiers of law they will not deliver, by themselves a stable climatic future. However, they do demonstrate that outrage will find avenues for legal expression, and innovative legal arguments will have their day in court.

I hope that such cases, with liberal cross-fertilization across jurisdictions, will catalyse political will and trigger transformative change, one state at a time, one sector at a time, one person at a time.

While much of what the Intergovernmental Panel on Climate Change has had to say in recent times has been sobering, the Working Group 3 Report released in April did also offer a glimmer of hope. The costs of renewable technologies - solar, wind and batteries - have decreased by 85% in the last decade. Options to halve emissions by 2030 exist across all sectors, and sufficient global capital and liquidity exists to close investment gaps.

A 1.5°C or at least a well below 2°C world is within our reach. But we need popular ownership, political will, and solidarity to support just transitions across all sectors and States.

As lawyers, if we do not push the frontiers of law and indeed ‘all of society’ to help us deliver a climate stable future, our response to the Irish poet *Theo Dorgan’s ‘The Question’* will be one steeped in unrelenting regret.

The Question by Theo Dorgan (2015)

*When the great ships come back,
and come they will, when they
stand in the sky all over the
world, candescent suns by day,
radiant cathedrals in the night,
how shall we answer the
question:*

*What have you done with
what was given you, what
have you done with the
blue, beautiful world?*

Thank you for listening.

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