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Realist climate ethics: Promoting climate ambition within the Classical Realist tradition

Jonathan Symons*

Macquarie University, Sydney
*Corresponding author. Email: jonathan.symons@mq.edu.au

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Abstract

What is a Classical Realist analysis of climate ethics and politics? Classical Realist ethical analysis differs from ideal normative theory in that it addresses state decision-makers rather than individuals, assumes highly imperfect compliance with the demands of justice, and is concerned with feasibility and transition rather than end-states. Classical Realists urge leaders to prioritise state security over private moral concerns, to assess rival policies against their likely consequences and to seek the 'lesser evil' among feasible choices. But how does Realism respond when the prudent pursuit of state security risks rendering much of the planet uninhabitable? In the 1950s, the development of the hydrogen bomb created just such a dilemma as status quo politics now carried a significant risk of thermonuclear omnicide. In response, Hans Morgenthau argued that states should manage systemic risk by working in concert to safeguard expanded, collective national interests. The Classical Realist mode of thought suggests an analogous response to systemic climate risks: states' conceptions of national interest must expand to include cooperative system-preservation alongside traditional security concerns. Classical Realist arguments might then be mobilised to overcome resistance from vested interests and to support state-directed low carbon innovation, adaptation and mitigation agreements that prioritise ambition over distributional justice.

Keywords: Realism; Paris Agreement; Consequentialism; Climate Change; Solar Geoengineering

Introduction

What is a Classical Realist analysis of climate ethics and politics? This article seeks to identify the principled beliefs that comprise Classical Realism's *mode of ethical thought* and to examine their implications for climate policy.[1] The aim is not to defend Realist ethics or to demonstrate that Realism satisfactorily explains international climate negotiations.[2] Instead, I argue that a Realist analysis is useful for two reasons: (1) Realism's explicitly consequentialist mode of ethical reasoning raises questions concerning the feasibility constraints confronting state decision-makers that have received insufficient attention from normative theorists; and (2) the Realist tradition may contain unexplored resources for promoting more ambitious mitigation. Since many foreign policy decision-makers identify Realism as their primary theoretical reference-point and since

[1]Jarrod Hayes and Patrick James, 'Theory as thought: Britain and German unification', *Security Studies*, 23:2 (2014), pp. 399–429.

[2]See, for example, Sevasti-Eleni Vezirgiannidou, 'The Kyoto Treaty and the pursuit of relative gains', *Environmental Politics*, 17:1 (2008), pp. 40–57; David Victor, *Global Warming Gridlock* (Cambridge: Cambridge University Press, 2011); Mark Purdon, 'Neoclassical realism and international climate change politics: Moral imperative and political constraint in international climate finance', *Journal of International Relations and Development*, 17:3 (2014), pp. 301–38.

Realist logics can justify a wide array of policies, advocates of more ambitious mitigation may benefit drawing on Realist logics when addressing some audiences.[3]

Very few authors have directly considered Realist climate ethics (as opposed to Realist-inspired climate policy),[4] so the article begins by reviewing the distinct account of international ethics developed by Classical Realists. I focus on Hans Morgenthau because he outlines his ethical framework more extensively than other mid-century 'progressive Realists' such as Edward H. Carr or Reinhold Niebuhr.[5] Contrary to common belief, Morgenthau does not reject the Liberal normative project of minimising violence in political life; instead, he pursues Liberal values within constraints he believes are imposed by international politics.[6] Consequently, Morgenthau rejects the Kantian separation of politics and ethics that informs Liberal normative theory and argues that ethical reflection must proceed in conjunction with political analysis.[7] In addition to this *consequentialist* concern for counterproductive outcomes, Morgenthau also promotes politics' role as a positive 'regulative ideal' capable of peacefully relating plural international values to group outcomes.[8] Finally, Classical Realism also recognises the potential for ideas and ethics to influence policymaking and conceptions of the 'national interest'.

Many might question whether Classical Realist ethics, which developed as a reaction to the Cold War's politics of enmity, can usefully inform climate analysis.[9] Indeed, many scholars have argued that non-state actors are supplanting states' central role in climate governance.[10] While non-state actors are clearly playing an increasing role, what follows rests on the assumption that since states retain key roles intervening in energy markets, pricing emissions, funding innovation and (potentially) shaping the governance of solar geoengineering, they retain significant influence over climate governance. Indeed, despite Realist scholars' inattention to climate politics, from the earliest days of international climate governance various policies have been justified in Realist terms – the Bush administration's 'no-regrets' policy and the Obama administration's

[3]Paul C. Avey and Michael C. Desch, 'What do policymakers want from us? Results of a survey of current and former senior national security decision makers', *International Studies Quarterly*, 58:2 (2014), pp. 227–46; Judith Goldstein and Robert Keohane, *Ideas and Foreign Policy: Beliefs, Institutions, and Political Change* (Ithaca: Cornell University Press, 1993), p. 9.

[4]See Victor, *Global Warming Gridlock* and Purdon, 'Neoclassical realism', which both acknowledge the potential contribution of Realist climate ethics. Posner and Weisbach elaborate a consequentialist climate ethics organised around the concept of 'International Paretianism' that overlaps with Classical Realist ethics in Eric A. Posner and David Weisbach, *Climate Change Justice* (Princeton: Princeton University Press, 2010).

[5]See Campbell Craig, *The Glimmer of a New Leviathan: Total War in the Realism of Niebuhr Morgenthau and Waltz* (New York: Columbia University Press, 2003); Michael Williams, 'Why ideas matter in International Relations, Hans Morgenthau, Classical Realism, and the moral construction of power politics', *International Organization*, 58:4 (2004), pp. 633–65; Michael Williams, *The Realist Tradition and the Limits of International Relations, Volume 100* (Cambridge: Cambridge University Press, 2005); Sean Molloy, 'Aristotle, Epicurus, Morgenthau and the political ethics of the lesser evil', *Journal of International Political Theory*, 5:1 (2009), pp. 94–112; William Scheuerman, *The Realist Case for Global Reform* (Cambridge: Polity Press, 2011); and Alison McQueen, *Political Realism in Apocalyptic Times* (Cambridge: Cambridge University Press, 2017).

[6]Williams, *The Realist Tradition*, p. 104.

[7]Molloy, 'Aristotle, Epicurus', p. 96.

[8]Martin Warren, 'Max Weber's liberalism for a Nietzschean world', *American Political Science Review*, 82:2 (1988), pp. 31–50 (p. 31); Williams, 'Why ideas matter', pp. 643–57.

[9]Williams, 'Why ideas matter'.

[10]Michele Acuto, 'The new climate leaders?', *Review of International Studies*, 39:4 (2013), pp. 835–57; Harriet Bulkeley, 'Can cities realise their climate potential? Reflections on COP21 Paris and beyond', *Local Environment*, 20:11 (2015), pp. 1405–09; Jonathan W. Kuyper and Karin Bäckstrand, 'Accountability and representation: Nonstate actors in UN climate diplomacy', *Global Environmental Politics*, 16:2 (2016), pp. 61–81; Steven Bernstein and Matthew Hoffman, 'The politics of decarbonization and the catalytic impact of subnational climate experiments', *Policy Sciences* (2018), pp. 1–23.

advocacy of nationally determined mitigation pledges are both examples.[11] The ubiquity and diversity of 'Realist' approaches raise the question of whether more ambitious state policies might also be justified in Realist terms.

The departure point for my exploration of Classical Realism is the dilemma the hydrogen bomb posed for mid-century Realists. I argue this dilemma has significant parallels with climate change as, despite the radically different circumstances, in each case continuation of 'politics as usual' creates unacceptable systemic risks. In response to the threat of thermonuclear omnicide, Morgenthau identified principles that apply in situations where only collective action can avert potential catastrophe. Whereas Classical Realists had previously endorsed a narrow prudential ethic and accepted war as an inevitable aspect of international politics, Morgenthau now advocates an expanded conception of national interest.[12]

Analogously, a Classical Realist ethic of climate statecraft may also reframe national interests to promote system-preservation alongside traditional security concerns. Since Classical Realism views safeguarding national security as an ethical duty, and since climate change poses a long-term existential threat, it is arguable that discharging this ethical duty now requires state decision-makers to pursue climate cooperation alongside conventional security. I situate this Classical Realist account of climate ethics within contemporary debates by comparing it with Cosmopolitan accounts of climate justice. Whereas Cosmopolitan ideal theory typically addresses *individuals*, assumes *full compliance* with the demands of justice, and identifies *end-goals* of institutional reform,[13] Morgenthau's non-ideal theory takes up quite different questions: it addresses *state decision-makers*, assumes highly *imperfect compliance*, and is concerned with *feasibility* and *transition* rather than end-states.

The continuing relevance of non-ideal climate ethics is demonstrated by the ever-widening gap between ideal standards of climate justice and actual climate governance. Consider the Paris Agreement and accompanying decision text (the Agreement). Although the Agreement seems likely to be more effective than any previous climate treaty, even full implementation of all Paris pledges would fall far short of averting dangerous warming. The gap between rhetoric and ambition is perhaps best illustrated by the Agreement's stated aspiration to limit warming to 1.5 °C. In reality, a global emissions budget consistent with 1.5 °C warming will be exhausted several years before the Agreements' first 'global stocktake' of 'nationally determined contributions' (NDCs) in 2023.[14] Moreover, subsequent political developments, of which the election of the Trump administration is most dramatic, suggest that the Agreement might represent a high watermark of cooperation rather than a stepping-stone to a more ideal response. While proponents argue the Agreement is superior to any politically feasible alternative, this justification via the Realist ethic of the 'lesser evil' reflects a normative assessment that is far removed from philosophical accounts of climate justice.

My argument unfolds in five stages. The first two sections introduce a Realist analysis of global climate politics and illustrate the potential relevance of Realist logics by outlining the Agreement's core Realist elements. Sections Three and Four introduce Realist and Cosmopolitan accounts of ethics and map them against Realism's analysis of feasibility. The final section discusses domestic efforts to overcome resistance to mitigation from vested interests alongside three potential 'lesser evils' among more politically feasible policies: prioritisation of breakthrough energy research; mitigation agreements structured to accommodate great power interests; and solar geoengineering (SG).

[11]C. Boyden Gray and David B. Rivkin, 'A "no regrets" environmental policy', *Foreign Policy*, 83 (1991), pp. 47–65 (p. 52).
[12]See Craig, *The Glimmer of a New Leviathan*.
[13]See Laura Valentini, 'Ideal vs. non-ideal theory: a conceptual map', *Philosophy Compass*, 7:9 (2012), pp. 654–64 (p. 660).
[14]IPCC [core writing team, R. K. Pachauri and L. A. Meyer (eds)], *Climate Change 2014: Synthesis Report*, contribution of Working Groups I, II and III to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change (2014), IPCC, Geneva, Switzerland. Table 2.2, available at: {https://www.ipcc.ch/pdf/assessment-report/ar5/syr/SYR_AR5_FINAL_full_wcover.pdf} accessed 25 March 2018.

Classical Realist analysis of climate politics

Before examining Classical Realist ethical thought, we must first review the causal beliefs and feasibility constraints that inform it. Realists view the state, acting in pursuit of the 'national interest', as the most significant international actor. Analysis attends most carefully to *great powers* as these poles structure international order. Classical Realists also view *change* in the distribution of power as particularly significant, since shifts in relative power can create divergent perceptions, destabilising ambitions and fears.[15] Finally, Classical Realists hold a distinctive understanding of human nature: people both fear for their security and desire prestige.[16] While Classical Realists anticipate that structural factors will influence states' choices, they also recognise that leaders possess agency and that states' perceptions of their interests vary over time. By recognising that national interests are to some extent historically contingent, Classical Realists differ from Structural Realists, who argue that the content of state interests derives from the security dilemma, and also from those radical Realists (such as Noam Chomsky)[17] who view the state as acting in defence of elite interests. Classical Realism's concept of 'national interest' has been widely criticised for its indeterminacy. Even Morgenthau, while maintaining that the concept was analytically useful, acknowledged that it lacked clear definition.[18] Later I argue that this conceptual incoherence creates space for a progressive reinterpretation of Classical Realism.[19]

The primary Realist conclusion concerning climate politics is that *the logic of anarchy predisposes great powers to treat climate change as a lower-order issue*. Indeed, John Mearsheimer explicitly avoids discussing climate change in order to maintain focus on 'first-order' security threats.[20] Realists may recognise climate change as a potential survival-threat and advocate mitigation measures that do not compromise relative power;[21] however, believing that the near-term security dilemma structures international politics they anticipate that great power competition will militate against costly forms of mitigation and against compensating developing countries for climate harms. Radical Realists who view the 'national interest' as an elite construct will offer an even bleaker analysis if mitigation conflicts with the interests of elite groups that dominate policymaking.[22]

Realist pessimism turns upon a culturally contingent perception of risk and is highly contestable.[23] For example, many mitigation actions are costless and need not impact state security, domestic demands for climate action could overcome systemic influences, and understandings of 'national interest' might give greater weight to climate security. I explore some of these possibilities later. Nevertheless, Realism's expectation that systemic forces will not pull states toward climate action suggests that *national climate policies will primarily reflect domestic politics*. This insight is confirmed by the experience of countries like Costa Rica, South Korea and the United Kingdom, whose domestic politics have been conducive to unusually ambitious climate policies, just as much as by the Trump administration's apparent hostility and by Japan's turn to fossil

[15]Robert Gilpin, *War and Change in International Politics* (Cambridge: Cambridge University Press, 1981), p. 93; Jonathan Kirshner, 'The tragedy of offensive realism, Classical Realism and the rise of China', *European Journal of International Relations*, 18:1 (2012), pp. 53–75.

[16]Kirshner, 'The tragedy', p. 56.

[17]Ronald Osborn, 'Noam Chomsky and the Realist tradition', *Review of International Studies*, 35:2 (2009), pp. 351–70.

[18]Hans J. Morgenthau, 'Another "great debate": the national interest of the United States', *American Political Science Review*, 46:4 (1952), pp. 961–88; see also Cornelia Navari, 'Hans Morgenthau and the national interest', *Ethics & International Affairs*, 30:1 (2016), pp. 47–54.

[19]Véronique Pin-Fat, 'The metaphysics of the national interest and the "mysticism" of the nation-state: Reading Hans J. Morgenthau', *Review of International Studies*, 31:2 (2005), pp. 217–36.

[20]John Mearsheimer, *The Tragedy of Great Power Politics* (New York: Norton, 2001), p. 371.

[21]Martin Weitzman, 'On modelling and interpreting the economics of catastrophic climate change', *The Review of Economics and Statistics*, 91:1 (2009), pp. 1–19.

[22]Osborn, 'Noam Chomsky', pp. 351–70.

[23]Mark Lacy, *Security and Climate Change, International Relations and the Limits of Realism* (London: Routledge, 2006).

fuels and energy efficiency in the wake of the Fukushima disasters.[24] While a progressive Realist might argue that Japanese and US policies are inconsistent with each country's 'national interests', these examples are consistent with Realism's expectation that domestic politics will be the primary driver of national climate politics.

A second Realist assumption concerns relative gains among great powers: since great powers seek to maximise their relative power, mitigation measures that are cheap or that deliver valued co-benefits will be most feasible. Further, relative gains are guarded most jealously within rivalrous security relationships. Consider Sevasti-Eleni Vezirgiannidou's analysis of US Congressional debates over ratification of the Kyoto Protocol. Vezirgiannidou argues that US legislators were preoccupied with gains relative to China even though 1997 was a unipolar moment when Kyoto's modest emission reduction targets were anticipated to deduct only 0.15 per cent from US growth.[25] Today, China is a potential peer competitor and delay has significantly increased the difficulty of averting dangerous warming.[26] Since China (29 per cent) and the United States (14 per cent) are together responsible for approximately 43 per cent of CO_2 emissions and since these two states also contain a large proportion of global innovation capacity, any effective climate agreement requires both great powers' participation.[27] Yet, in the context of order transition,[28] Realists anticipate that both will prioritise comparative gains over rapid decarbonisation if the two conflict. On the other hand, if it proves possible to decarbonise without surrendering relative gains, or if aggressive mitigation brings relative gains through economic co-benefits, then Realism anticipates competitive, accelerating mitigation. However, a Realist might observe that fossil fuels currently supply over 80 per cent of global energy, so perceptions that there is a connection between mitigation efforts and economic strength are likely to linger.[29]

Great powers are also concerned for gains against regional rivals; thus ambitious international mitigation might align with China's strategic interests if China anticipates threats to domestic agricultural production and water supply exceed those facing regional rivals like India and Japan. Given the potential for co-benefits, no-regrets mitigation measures, and international coordination, Realism does not rule out the possibility of some cooperation (for example, the 2015 'U.S.-China Joint Presidential Statement on Climate Change' and Paris Agreement). China's increasing attention to integrating climate mitigation into its environmental and development planning, coupled with its continued insistence on clear distinctions between the international mitigation obligations of developed and developing states is also consistent with Realist analysis. However, Realism suggests that an ambitious international response will be unlikely if mitigation carries significant economic or political costs.[30]

These arguments might appear inconsistent with economic analysis, which suggests both that there is a compelling cost-benefit case for ambitious mitigation, and that the costs of decarbonisation can be relatively trivial. Consider the Intergovernmental Panel on Climate Change's (IPCC) Fifth Assessment Report's summary of economic research into mitigation costs:

[24]Sung-Young Kim and Elizabeth Thurbon, 'Developmental environmentalism: Explaining South Korea's ambitious pursuit of green growth', *Politics & Society*, 43:2 (2015), pp. 213–40; Rasmus Karlsson and Hee-Yoon Kim, 'Korea and climate change: Unpacking the domestic media discourse', *Asian Politics & Policy*, 7:2 (2015), pp. 332–6; Cameron Hepburn and Alexander Teytelboym, 'Climate change policy after Brexit', *Oxford Review of Economic Policy*, 33:1 (2017), S144–S154.

[25]Vezirgiannidou, 'The Kyoto Treaty', pp. 207–10.

[26]Pachauri and Meyer (eds), *Climate Change 2014*, p. 24.

[27]Jos Olivier, Klara Schure, and Jeroen Peters, *Trends in Global CO2 and Total Greenhouse Gas Emissions: 2017 Report* (The Hague: PBL Netherlands, 2017).

[28]Maximilian Terhalle and Joanna Depledge, 'Great-power politics, order transition, and climate governance', *Climate Policy*, 13:5 (2013), pp. 572–88.

[29]IEA, *Key World Energy Statistics 2017* (OECD/IEA, 2017).

[30]R. O. Keohane and D. G. Victor, 'Cooperation and discord in global climate policy', *Nature Climate Change*, 6:6 (2016), pp. 570–5.

> Scenarios in which all countries of the world begin mitigation immediately, there is a single global carbon price, and all key technologies are available, have been used as a cost-effective benchmark for estimating macroeconomic mitigation costs. Under these assumptions, mitigation scenarios that reach atmospheric concentrations of about 450 ppm CO2eq by 2100 entail losses in global consumption – not including benefits of reduced climate change as well as co-benefits and adverse side-effects of mitigation – of 1% to 4% (median: 1.7%) in 2030, 2% to 6% (median: 3.4%) in 2050, and 3% to 11% (median: 4.8%) in 2100 relative to consumption in baseline scenarios that grows anywhere from 300% to more than 900% over the century.[31]

These economic assessments assume immediate implementation of politically challenging economic policies (for example, a global carbon price) and widespread utilisation of politically unpopular technologies (carbon capture and sequestration, bioenergy, and nuclear power all play significant roles in the IPCC's estimates of least-cost mitigation).[32] Consequently, Realist pessimism is sustained, not be the intrinsic costs of mitigation, but by analysis of the political barriers to economically ideal policy.

Cooperation challenges arise in both national and international politics owing to the uneven distribution of the costs and benefits of mitigation. Since mitigation costs are frontloaded and concentrated in specific sectors, established industrial polluters often create domestic political resistance to ideal economic policies. The uneven international distribution of costs creates further political resistance. Since nearly all emission growth and least-cost mitigation opportunities are now located in the developing world, implementation of international emissions pricing would result in first world capital being invested in developing world mitigation. Economically, this would be highly efficient. However, such a transfer of wealth is unlikely to receive lasting support from voters in affluent democracies. Of course, the actual costs of decarbonisation may fall rapidly with technological change or through the adoption of more economically efficient policies. However, Classical Realism's method of grounding expectations in historical experience promotes continued pessimism.

Realism thus anticipates that great power rivals will struggle to achieve ambitious cooperation unless they anticipate disproportionate benefits – either by making relatively low contributions, or through comparative gains in avoided harms. International agreements will likely embody a level of ambition that reflects domestic concerns and the capacity to deliver emissions abatement as a co-benefit. Thus a Realist might interpret China's comparatively ambitious NDCs and investments in wind, nuclear, solar and hydroelectricity as being largely motived by concerns for air quality, energy security, and economic competitiveness. China is drawn to renewable or easily stockpiled energy sources as it fears a naval blockade on oil imports and is also motivated by a 'techno-nationalist' desire to gain technological leadership and export dominance in clean energy technologies.[33]

Ambitious mitigation is intrinsically challenging for reasons besides the standard cooperation challenges of supplying global public goods: political will formation and policy design is complicated by the delay of roughly one decade between emission of carbon dioxide and its peak warming impact, and by the fact that local warming reflects aggregate global emissions rather

[31]IPCC [O. Edenhofer, R. Pichs-Madruga, Y. Sokona, E. Farahani, S. Kadner, K. Seyboth, A. Adler, I. Baum, S. Brunner, P. Eickemeier, B. Kriemann, J. Savolainen, S. Schlömer, C. von Stechow, T. Zwickel, and J. C. Minx (eds)], 'Summary for Policymakers', in *Climate Change 2014: Mitigation of Climate Change: Contribution of Working Group III to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change* (Cambridge: Cambridge University Press, 2014). p. 15.

[32]IPPC [O. Edenhofer et al. (eds)], 'Summary for Policymakers', p. 15, Table SPM.2.

[33]Andrew Kennedy, 'Powerhouses or pretenders? Debating China's and India's emergence as technological powers', *The Pacific Review*, 28:2 (2015), pp. 281–302.

than local policies.[34] As a result, climate policies are often shaped by a variety of non-climate-related political factors that drive up the real-world costs of mitigation. The long lifespan of energy infrastructure (typically forty to seventy years) creates further inertia. Moreover, since the benefits of adaptation spending accrue locally, while the benefits of mitigation are predominantly international, self-interested actors can be expected to choose a suboptimal global allocation of resources, skewed toward adaptation.

Classical Realism points to domestic politics, particularly within middle powers, as a potential solution. Here, Classical Realist assumptions about human nature suggest possible grounds for both hope, if mitigation can be linked to national prestige, or for scepticism, since short-term material self-interest might seem inconsistent with ambitious mitigation. The EU's relatively ambitious climate policies and engaged political discourse might seem to support the more optimistic case. Yet implementation of the EU's ambitious 2030 emissions commitments has proceeded extremely cautiously in order to avoid rancorous internal division, and even the UK's post-Brexit climate leadership is now unclear.[35] Evidence that no major industrialised state is on track to meet its Paris Agreement commitments (let alone emissions neutrality),[36] and that even the EU's ambitious mitigation pledges fall far short of 'climate justice' supports the pessimistic conclusion that mitigation will proceed much too slowly to avoid dangerous warming.[37] While some high-ambition states do boast near zero-carbon electricity (for example, Switzerland, Norway, Sweden, France) these achievements are largely attributable to historical selection of hydroelectricity or nuclear power (or geothermal in Iceland), not climate policy.[38]

In summary, despite the existential threat posed by climate change and the theoretical potential to mitigate much of this threat at minimal cost, Realists anticipate that ambitious global mitigation will be unlikely for so long as domestic mitigation is politically difficult or economically costly. Realists, ever attuned to the recurrence of tragic dilemmas, may increasingly view climate change as another part of the perennial, irresolvable security dilemma. Something of this tragic disposition is captured in Ted Nordhaus's observation in *Foreign Affairs* that climate change is 'now a permanent condition of the human present and future, one that we will manage more or less successfully but that we will never solve'.[39]

A Realist analysis of Paris

It is arguable that the Paris Agreement consolidates a Realist turn in climate policy that was already apparent in the Copenhagen Accord of 2009.[40] Whereas the Kyoto Protocol only set binding mitigation targets for developed states, the Agreement establishes a universal bottom-up process of NDCs that simultaneously satisfies China's demand for developing world 'headroom'

[34]Katharine L. Ricke and Ken Caldeira, 'Maximum warming occurs about one decade after a carbon dioxide emission', *Environmental Research Letters*, 9:12 (2014), p. 124002; Dieter Helm, 'Government failure, rent-seeking, and capture: the design of climate change policy', *Oxford Review of Economic Policy*, 26:2 (2010), pp. 182–96.

[35]Susanne Dröge and Oliver Geden, *After the Paris Agreement: New Challenges for the EU's Leadership in Climate Policy* (Berlin, 2016 SWP Comments 19/2016), p. 3, available at: {http://nbn-resolving.de/urn:nbn:de:0168-ssoar-46786-7} accessed 25 March 2018; Hepburn and Teytelboym, 'Climate change'.

[36]David G. Victor, Keigo Akimoto, Yoichi Kaya, Mitsutsune Yamaguchi, Danny Cullenward, and Cameron Hepburn, 'Prove Paris was more than paper promises', *Nature*, 548:7665 (2017), pp. 25–7.

[37]Glen Peters, Robbie Andrew, Susan Solomon, and Pierre Friedlingstein, 'Measuring a fair and ambitious climate agreement using cumulative emissions', *Environmental Research Letters*, 10:10 (2015), p. 105004.

[38]B. W. Ang and Bin Su, 'Carbon emission intensity in electricity production: a global analysis', *Energy Policy*, 94 (2016), pp. 56–63.

[39]Ted Nordhaus, 'The two degree delusion', *Foreign Affairs* (8 February 2018), available at: {https://www.foreignaffairs.com/articles/world/2018-02-08/two-degree-delusion} accessed 25 March 2018.

[40]Claims concerning a Realist turn at Copenhagen are discussed in Steven Bernstein, Michele Betsill, Matthew Hoffmann, and Matthew Paterson, 'A tale of two Copenhagens: Carbon markets and climate governance', *Millennium: Journal of International Studies*, 39:1 (2010), pp. 162–4.

and the Obama administration's insistence on equivalent treatment of developed and developing states. While negotiators understood that developing county commitments would be very different from those of developed countries, the Agreement relaxes the equity-based CBDR distinction between the responsibilities of developed and developing states that has been central to UNFCCC negotiations since 1992. Finally, whereas the Kyoto Protocol was undermined by the US's non-participation,[41] the Paris Agreement was pre-emptively stripped of all elements – such as binding emissions targets or specific commitments of financial support – whose adoption would require congressional ratification.[42] Despite the Trump administration's subsequent commitment to withdraw, a Realist might argue that the Paris Agreement's structure reflects the progressive realism of the Obama Whitehouse.

The Obama administration's rhetoric supports this analysis. At the Durban negotiations of 2011, US Climate envoy Todd Stern famously warned 'if equity's in, we're out'.[43] After Paris, Stern commended the 'socialized realism' demonstrated in the Agreement's acquiescence to great power demands.[44] For example, while a group of least developed and island states demanded inclusion of a liability clause, the Agreement only recognises possible expansion of the Warsaw International Mechanism for Loss and Damage and clarifies that this 'does not involve or provide a basis for any liability or compensation'.[45] Likewise India's call for measurement, reporting, and verification of specific finance pledges was rejected.[46]

Enforcement mechanisms and binding national mitigation targets, which were pushed by the European Union, were also rejected by both China and the United States. Parties must formulate and submit NDCs (targets) for periodic international review, and the Agreement sets collective targets for financing mitigation and adaptation. However, no individual country is legally required to meet these targets.[47] The non-coercive, transparency-enhancing NDC process and the emissions trading scheme envisaged by Article 6, might equally be rationalised via neoliberal institutionalist reasoning: with sufficient domestic support this design may secure higher ambition than would an enforceable agreement.[48] However, this soft-law regime is also consistent with Realism's tragic sensibility and scepticism concerning international law.

While the Paris Agreement embodies many promising impulses, the net result falls far short of the Agreement's stated goals. A report commissioned by the UNFCCC found that were states' initial pledges (NDCs) fully implemented to 2030, this would only bridge about 22 per cent of the gap between the business-as-usual reference scenario and 2 °C scenarios.[49] After a promising three-year period in which global emissions were nearly stable, in 2017 global GHG emissions

[41]See Vezirgiannidou, 'The Kyoto Treaty'.

[42]Daniel Bodansky, 'The legal character of the Paris Agreement', *RECIEL*, 25:2 (2016), pp. 142–51.

[43]Jonathan Pickering, Steve Vanderheiden, and Seumas Miller, '"If equity's in, we're out": Scope for fairness in the next global climate agreement', *Ethics and International Affairs*, 26:4 (2012), pp. 423–43 (p. 413).

[44]Natasha Geiling and Todd Stern, 'After the Paris Climate Agreement, countries of the world "are not going back"', *Climate Progress* (15 December 2015), available at: {thinkprogress.org/climate/2015/12/15/3732172/todd-stern-paris-climate-agreement/} accessed 18 November 2017.

[45]Paris COP Decision Paragraph 52, Dec. 12, 2015, UN. Doc. FCCC/CP/2015/L.9/Rev.1, available at: {https://unfccc.int/resource/docs/2015/cop21/eng/l09.pdf.} accessed 25 March 2018.

[46]IISD, Earth Negotiations Bulletin (ENB) 12:663 (15 December 2015), available at: {http://www.iisd.ca/vol12/enb12663e.html} accessed 18 November 2017.

[47]Bodanksy, 'The legal character', p. 10.

[48]Robert O. Keohane and Michael Oppenheimer, 'Paris: Beyond the climate dead end through pledge and review?', *Politics and Governance*, 4:3 (2016), pp. 142–51; David Victor, 'What the Framework Convention on Climate Change teaches us about cooperation on climate change', *Politics and Governance*, 4:3 (2016), pp. 133–41.

[49]UNFCCC, FCCC/CP/2015/7 30, 'Synthesis report on the aggregate effect of the intended nationally determined contributions' (October 2015), available at: {http://unfccc.int/resource/docs/2015/cop21/eng/07.pdf, p 44} accessed 18 November 2017.

increased again. Thus the decadal average increase in the 2010s, although well below the 2000s (3 per cent), remains roughly equal to that in the 1990s (1.1 per cent).[50] Temperature rises exceeding 3 °C by 2100 seem increasingly likely[51] and, unless climate sensitivity is less than the IPCC's median estimates,[52] plausible emissions pathways that avoid 2 °C warming now rely on heroic assumptions of massive negative emissions after 2050.[53] As Glen Peters observes, Article 4 of the Paris Agreement explicitly calls for geoengineering through 'carbon dioxide removal' where it stipulates the need for 'balance between anthropogenic emissions by sources and removals by sinks of greenhouse gases in the second half of this century'.[54]

The Paris Agreement's generally positive reception – despite it confirming a trajectory toward dangerous warming – might seem puzzling. However, at least two justifications are commonly offered. One suggests the Agreement boosts the mitigation efforts of civil society, businesses, cities and regions, as reflected, for example, in the Lima-Paris Action Agenda. A second justifies Paris as a lesser evil. For example, Daniel Bodansky explains that 'given current political realities' Paris 'produced as much as could reasonably have been expected'.[55] Likewise, President Obama lauded the Agreement for establishing 'the architecture, for us to continually tackle this problem in an effective way'.[56] While arguments premised in political feasibility have also been used to justify earlier agreements, some consistent critics of Kyoto's design have expressed qualified support for the Paris Agreement.[57] Indeed, Bodansky's argument that the Paris Agreement accommodates the diversity of international interests and lays the groundwork for future negotiations mirrors a justification he offered in 1993 for the UNFCCC's 'failure to set binding targets'[58] and his subsequent critique of Kyoto's binding commitments: 'states willing to accept Kyoto-style emissions targets represent less than 30% of global greenhouse gas emissions'.[59] Given this understanding of Realist causal beliefs and climate politics, what follows investigates this Realist mode of ethical thought.

Classical Realist ethics

Morgenthau advises statespeople to view national survival as an ethical imperative, to prudently appraise consequences and to orient policymaking around the pursuit of the 'national interest'. While we can classify this approach as (unreflectively-anthropocentric) communitarian act-consequentialism, recent scholarship has explicated broader ethical commitments. Michael Williams argues that Morgenthau's conception of politics as a distinct sphere derives from commitments to pluralism and to politics as a positive process through which conflicting value

[50]See Glen P. Peters, Corinne Le Quéré, Robbie M. Andrew, Josep G. Canadell, Pierre Friedlingstein, Tatiana Ilyina, Rob Jackson, Fortunat Joos, Jan Ivar Korsbakken, Galen A. McKinley, Stephen Sitch, and Pieter Tans, 'Towards real-time verification of CO_2 emissions', *Nature Climate Change*, 7:12 (2017), p. 848.

[51]Pachauri and Meyer (eds), *Climate Change 2014.*

[52]Uncertainty over the 'emissions budget' consistent with avoiding 2 °C has increased since 2017. Glen P. Peters, 'Beyond carbon budgets', *Nature Geoscience* (14 May 2018), available at: doi: 10.1038/s41561-018-0142-4.

[53]Kevin Anderson, 'Duality in climate science', *Nature Geoscience*, 8:12 (2015), pp. 898–900.

[54]Glen Peters, 'The "best available science" to inform 1.5 °C policy policy choices', *Nature Climate Change*, 6:7 (2016), p. 646.

[55]Daniel Bodansky, 'The Paris Climate Change Agreement: A new hope?', *American Journal of International Law*, 110:2 (2016), pp. 288–319.

[56]Barack Obama, 'Statement by the President on the Paris Climate Agreement' (12 December 2015), available at: {https://www.whitehouse.gov/the-press-office/2015/12/12/statement-president-paris-climate-agreement} accessed 18 November 2017. Of course, the same justification might have been offered in respect of the Kyoto Protocol; however Realists always viewed Kyoto with scepticism because it handed relative gains to China and other potential US rivals.

[57]David G. Victor, 'Why Paris worked: a different approach to climate diplomacy', *Yale Environment*, 360 (2015), p. 15.

[58]Daniel Bodansky, 'The United Nations Framework Convention on Climate Change: a commentary', *Yale J. International Law*, 18 (1993), pp. 451–558 (p. 480).

[59]Daniel Bodansky, 'A tale of two architectures: the once and future UN climate change regime', *Ariz. St. LJ*, 43 (2011), p. 697.

commitments can be peacefully negotiated.[60] Morgenthau also embraces a 'moral cosmopolitanism', which demands that all humans be treated as ends in themselves.[61] Morgenthau's underlying ethical commitment, doubtless informed by his experience as a Jewish-German émigré, is to enable individual morality. However, his belief that only a secure state can provide necessary preconditions for individual pursuit of an ethical life grounds his commitment to minimising violence and enmity in both domestic and international politics. Classical Realism thus primarily diverges from Liberal Internationalism and Cosmopolitanism in its pessimistic understanding of feasibility-constraints. Realists see an anarchic international system in which states prudently pursue their national interests without recourse to the moralistic politics of enmity as the brightest feasible future.

Classical Realism also views order as a prerequisite to justice and anticipates that states will adopt self-serving standards of justice.[62] Here Realism echoes Hobbes's understanding of justice's 'inconstant signification' that varies with the 'interest of the speaker'.[63] Wary that appeals to justice will promote conflict, Hobbes seeks to tame the idea by defining justice as 'legality' or compliance with the sovereign's will.[64] 'Justice' is thus problematic internationally as there is no sovereign.[65] Classical Realists resist claims of a potential harmony of interests among states and eschew 'demonological interpretations' of international politics, as they anticipate that negotiation over conflicting 'interests' will be more respectful of pluralism if it is free of sanctimony.[66]

Mindful that rejection of ideal standards can easily collapse into amoral realpolitik, Morgenthau outlines several ethical tenets: first, since there can be no international ethical consensus, Realism holds prudence, 'considering the consequences of seemingly moral action', as 'the supreme virtue in politics'. Moderation, prudence, and pursuit of the 'lesser evil' form a modus vivendi with which to approximate unknowable transcendental ideals.[67] Second, 'national survival' should be considered an independent 'moral principle' because only stable national communities can foster conditions enabling pursuit of an ethical life. Third, Morgenthau distinguishes between the ethical responsibilities of state decision-makers and those of citizens; while individuals may sacrifice themselves for justice and principle, a state leader's obligation to secure the national community overrides private moral concerns. Moreover, political choices must be informed by a 'sharp distinction between the desirable and the possible'.[68]

After the Second World War, the novel potential for thermonuclear war and civilisational collapse prompts Morgenthau to recognise that it would be 'rational' to create international institutions tasked with governing nuclear weapons; but he believes such 'limited world government' is practically unachievable.[69] Although still pessimistic, he shifts from ridiculing internationalism in the 1950s to embracing 'a principle of political organization transcending the nation-state'.[70] Niebuhr's essay, 'The Hydrogen Bomb' reveals an equally dramatic shift wherein

[60]Williams, 'Why ideas matter', pp. 653–7.

[61]Hans Morgenthau, *In Defense of the National Interest: A Critical Examination of American Foreign Policy* (New York: Knopf, 1951), pp. 30–5; Scheuerman, *The Realist Case*, p. 100.

[62]Williams, *The Realist Tradition*, pp. 1–2

[63]Thomas Hobbes, *Leviathan*, ed. Edwin Curley (Indianapolis, Indiana: Hackett, 1994 [orig. pub. 1651]), pp. 4, 24.

[64]Hobbes, *Leviathan*, pp. 12–13.

[65]Jamie Mayerfeld, 'No peace without injustice, Hobbes and Locke on the ethics of peacemaking', *International Theory*, 4:2 (2012), pp. 269–99 (p. 274); see Morgenthau, *In Defense*, p. 34.

[66]Edward Carr, *The Twenty Years' Crisis 1919–1939* (Basingstoke: Palgrave Macmillan, 2001); Morgenthau, *In Defense*, pp. 35–8.

[67]Hans Morgenthau, *Politics among Nations: The Struggle for Power and Peace* (New York: Knopf, 1967), p. 10.

[68]Hans Morgenthau, 'The evil of politics and the ethics of evil', *Ethics*, 56:1 (1945), pp. 1–18, (p. 5); Morgenthau Politics among Nations, p. 7.

[69]Hans Morgenthau, *The Purpose of American Politics* (New York: Knopf, 1960), pp. 171–4.

[70]Hans Morgenthau, *The Decline of the Democratic Politics: Politics in the Twentieth Century, Volume I* (Chicago: University of Chicago Press, 1962), pp. 75–6.

he hopes the bomb might 'make for peace, because it proves that we must achieve an organized society in global terms or perish'.[71]

Climate change parallels the threat of thermonuclear holocaust in that pursuit of narrow national interests is again creating a systemic risk of catastrophe. However, whereas thermonuclear war poses an imminent threat and arises through deliberate policy choices, climate harms build over decades and are an inadvertent, negative externality of peaceful economic activity. Although recognising that 'politics as usual' can create morally unacceptable systemic risks, Morgenthau saw no feasible option that was preferable to the Realist modus vivendi of pursuing the lesser evil. He despairingly advocated prudent pursuit of expanded national interests and reforms that might partially mitigate the logic of anarchy – all the while believing these would likely be inadequate.

Where Realism is commonly framed as a response to 'utopian' Liberal internationalism, Alison McQueen reads Morgenthau's critique of American Liberalism as part of a wider rejection of secular ideologies that exploit the apocalyptic imaginary. She writes that Morgenthau saw Nazism as the most extreme instance of a phenomenon, also apparent in American Liberal Internationalism and Soviet Communism, 'of an apocalyptic political religion whose aim is world transformation and domination'.[72] Early in his career Morgenthau rejected Liberal assertions concerning the moral supremacy of the United States because he feared the destructive politics of enmity and anticipated that moralisation of international politics would be used to justify unnecessary conflict.[73] However, McQueen notes that the essay 'Death in a Nuclear Age' marks a turning point. Whereas Morgenthau had previously stressed the inevitability of discord to counter Liberal demands that Soviet evil be eliminated, this essay mobilises the apocalyptic imaginary against hawkish sentiment. Morgenthau now dwells on thermonuclear horrors to counter complacent acceptance of the inevitability of nuclear conflict.[74]

Yet, Morgenthau's belief that states must invariably pursue national interests suggested a possible solution: an expanded conception of the national interest. Morgenthau concludes: '[w]hat is historically conditioned in the idea of the national interest can be overcome only through the promotion in concert of the national interest of a number of nations.'[75] Here Morgenthau exploits the concept of national interest's imprecision to articulate a more progressive policy in Realist terms. His key move is a discursive reframing of the 'national interest' to take account of both cooperative system-preservation and competitive security concerns.

Today, the risk of climate catastrophe poses a similar challenge and scepticism over the prospects for international cooperation again implies a need for deliberate efforts to expand national conceptions of self-interest (the Paris Agreement's 'global stocktake' process and periodic revision of NDCs are possible examples). Henry Shue offered an analogous critique of conventional Realist analysis in a 1996 paper on the environment and international order, arguing, 'National interests need to be shaped from the beginning by a commitment to a just international order, rather than our belatedly attempting to promote equity only in whatever residual space remains after national interests [narrowly defined] are all granted maximal scope.'[76] While Shue's critique of 'amorally constructed national interests' contradicts Morgenthau's views on the morality of self-preservation, both scholars view incorporation of shared concerns within national interest as the key to averting systemic crisis and injustice.

[71]Reinhold Niebuhr, *Love and Justice* (Gloucester, MA: Peter Smith, 1976), pp. 234–5.

[72]McQueen, *Political Realism*, p. 172.

[73]Morgenthau *In Defense*, p. 37; Williams, 'Why ideas matter'; McQueen, *Political Realism*, p. 175.

[74]McQueen, *Political Realism*, p. 178; Alison McQueen, 'Salutary fear? Hans Morgenthau and the politics of existential crisis', *American Political Thought*, 6:1 (2017), pp. 78–105.

[75]Hans Morgenthau, *Decline of Domestic Politics* (Chicago, IL: University of Chicago Press, 1958), p. 73.

[76]Henry Shue, 'Ethics, the environment and the changing international order', *International Affairs*, 71:3 (1995), pp. 453–61 (p. 457).

Since Classical Realism promotes a consequentialist modus vivendi of the 'lesser evil' rather than an analytically derived ideal, it is necessarily less precise than is ideal normative theory. However, Realist ethical analysis's claim to continuing relevance arises because it addresses issues that are often ignored by contemporary normative literature. Foremost is the question of how to choose among the imperfect set of policies that are feasible in a context where an overwhelming majority of people, states, and other collective actors are not acting as ideal theories of climate justice insist they should.

Classical Realism, Cosmopolitanism, and non-ideal theory

Cosmopolitan accounts of climate justice respond to a fundamental inequity: while climate change's worst impacts generally befall the planet's most vulnerable people, these harms are generated by the most affluent.[77] The view that global warming has forged a global community of fate and generates international obligations of justice informs many NGOs' and developing states' demands for repayment of a 'climate debt' arising from the West's historic GHG emissions.[78] A Realist might accept this analysis, and still insist that it would be nigh impossible for Western leaders to implement ideal policy. Since Classical Realism is concerned with *national decision-makers' choices* among the limited set of *feasible transition pathways*,[79] Realism views ideal theory as offering insufficient information to guide policy. Most significantly, it differs from Cosmopolitan ideal theory in its treatment of *feasibility* and *desirability*.[80]

Normative theorists typically argue that identifying an ideal outcome is valuable since it allows policymakers to select the best approximation of the 'ideal' from a set of feasible measures.[81] As John Rawls argues, 'ideal theory … is a necessary complement to non-ideal theory without which the desire for change lacks an aim'.[82] How does feasibility figure in this assessment? Normative theorists distinguish between 'soft constraints' – economic, cultural, and institutional barriers that could theoretically be overcome – and 'hard constraints' that make justice physically impossible.[83] If a course of action is physically possible, but infeasible due to soft constraints, ideal normative theory provides a social critique that seeks to promote incremental movement toward justice.

Since Realism's task is policy-guidance rather than social critique, its central work is ranking alternative climate policies. 'Soft constraints' blocking cosmopolitan climate justice include powerful business interests resisting aggressive mitigation, public opposition to climate policies with near-term costs, a lack of deployment-ready low carbon technologies to replace fossil fuels in transport and industry (which together account for over two fifths of global emissions), and an anarchic international system that confounds international collective action. Anticipating that these feasibility constraints are unlikely to be quickly overcome, Realist ethical analysis seeks to assess the *feasibility* and *desirability* of alternative policies from the perspective of an expanded national interest.

If ideal theory prescribes ambitious mitigation action and compensation of vulnerable persons, financed by those communities that are responsible, capable, and have benefited from past emissions, Realism responds that a mix of soft and hard constraints means any feasible policy

[77]See, for example, Steve Vanderheiden, *Atmospheric Justice: A Political Theory of Climate Change* (Oxford, UK: Oxford University Press, 2008), p. 46.

[78]Martin Khor, 'Equity is the gateway to environment ambition, South Centre statement in UNFCCC', *SouthViews* (24 July 2012).

[79]See Valentini, 'Ideal vs. non-ideal theory', pp. 660–1.

[80]Pablo Gilabert and Holly Lawford-Smith, 'Political feasibility: a conceptual exploration', *Political Studies*, 60:4 (2012), pp. 809–25 (pp. 818–23).

[81]Zofia Stemplowska, 'What's ideal about ideal theory?', *Social Theory and Practice*, 34:3 (2008), pp. 319–40.

[82]John Rawls, *Political Liberalism* (New York: Columbia University Press. 1993), p. 285.

[83]Gilabert and Lawford-Smith, 'Political feasibility', p. 813.

will likely be imperfect along the dimensions of both ambition and distributional justice. Mindful of the slow pace of political will-formation and the time-critical nature of the challenge, Classical Realism also anticipates trade-offs between means and outcomes, so it seeks a comprehensive ethical assessment of the processes and outcomes of different policy responses. For example, Realist ethics views ambitious mitigation as more desirable than distributive justice if trade-offs between the two cannot be avoided. This is because Realists' desire to promote order and security means they will also prioritise minimising future climate harms. Realist ethics might thus endorse an agreement (like Paris) that imposes an unjust share of mitigation costs on developing countries if this injustice increases ambition.

Contrasting Realist and Cosmopolitan ethics

Steve Vanderheiden identifies the ideal allocation of climate-related 'burdens' as the 'primary question of climate ethics', and it is true that mainstream normative analysis has parsed how burdens should be distributed – on the basis of historical responsibility, present-day emissions, capacity to assist or benefit received from past emissions.[84] Further questions surround the procedural justice of negotiations and the background conditions of injustice (for example, colonialism, unjust terms of trade) that existing international institutions embody.[85] Realists will reject this account, as they will view minimising climate burdens as the primary ethical goal.

While the climate justice literature encompasses complex debates, something close to a consensus has emerged in support of at least three key claims.[86] First, the rich world has a *duty to compensate* vulnerable persons for climate harms. Henry Shue argues this consensus has arisen because the most plausible equitable principles guiding allocation of responsibility (ability to pay, contribution to the problem, provision of a guaranteed minimum) all 'converge on the same practical conclusion' that 'wealthy industrialized states' should bear climate costs.[87] A Realist might respond that voluntary forfeiture of national wealth is not only politically infeasible, but that if fully discharged this duty to compensate would require international transfer of hundreds of billion dollars annually and that this could bring unintended adverse consequences: corruption and limited state capacity would likely prevent international compensation from assisting intended beneficiaries;[88] increasing wealth would likely increase developing world emissions (fro example, through greater equity in food or energy access); if economic disruption in the West slowed the pace of energy research this could set back global decarbonisation.[89]

The second widely supported duty concerns achieving *equitable emissions.* Most cosmopolitan theorists argue that all individuals have a responsibility, premised in the duty to avoid causing harm, to rapidly reduce their GHG emissions to a level, which, if applied globally, would prevent future climate harms. Arguably, zero emissions is the most defensible goal. However, one estimate suggests that in order to stabilise atmospheric concentrations at 450 to 550 ppm CO_2-e (a less demanding target than most justice theorists accept) global average per capita CO_2 emissions will have to decline to 2–3 tonnes per capita average.[90] Most theorists endorse rapid convergence

[84]Vanderheiden, *Atmospheric Justice*, p. 201.

[85]Stephen Gardiner, *A Perfect Moral Storm: The Ethical Tragedy of Climate Change* (New York, NY: Oxford University Press, 2011), p. 309.

[86]Tim Hayward, 'Climate change and ethics', *Nature Climate Change*, 2:12 (2012), pp. 843–8; Melissa Lane, 'Political theory on climate change', *Annual Review of Political Science*, 19 (2016), pp. 107–23 (pp. 112–13).

[87]Henry Shue, 'Global environment and international inequality', in Stephen Gardiner, Simon Caney, Dale Jamieson, and Henry Shue (eds), *Climate Ethics: Essential Readings* (New York: Oxford University Press, 2010), pp. 110–11.

[88]Victor, *Global Warming*, pp. 184–5.

[89]Ibid., pp. 182–5.

[90]Ross Garnaut, *The Garnaut Review 2011* (Melbourne: Cambridge University Press, 2011), p. 203.

on approximately equal emission entitlements, although other schemes are possible.[91] For industrialised countries like the United States (15.6 tonnes CO_2/cap in 2016), Germany (9.47 tonnes), and even China (7.43 tonnes) this standard is very demanding.[92]

Realist ethics would counsel states against making *equitable emissions* a near-term goal if it is so demanding that it impairs national security or produces adverse unintended consequences. Does this reasoning apply here? Although scholars and activists have proposed many scenarios through which to achieve a low carbon global energy system, meta-analysis shows these scenarios generally lack detailed strategies for industrial and transportation sectors, require historically unprecedented improvements in energy intensity and are premised on the persistence of highly unequal international patterns of energy use, which are themselves incompatible with justice.[93] Given the absence of low carbon infrastructure, achieving equitable emissions immediately would be radically disruptive and would require severe rationing of electricity, manufactured products, air travel, private motorised transport and emissions-intensive foods. Such measures may undermine domestic political stability.

A third Cosmopolitan duty concerns *just distribution*. This claim, which asserts that abstract standards of justice should guide the distribution of costs and benefits, can be contrasted with a Realist conception, which requires distribution to promote effectiveness (for example, Realism advocates maximising ambition through consistency with powerful states' interests).[94] Cosmopolitans commonly believe that justice is a prerequisite for effectiveness since 'to be effective the regulatory framework of any global climate policy must be accepted by all national parties, and to be acceptable to all it must offer terms that are fair to each'.[95] However, from the Realist perspective, to impose ethical standards that differ from those accepted by great powers is to load extra handicaps on an already intractable problem.

Classical Realism's different focus means it generally complements rather than critiques Cosmopolitan climate justice – for example, since Realism addresses state decision-makers it is silent on individual responsibilities. Moreover, were all people to comply with their ideal obligations, all non-technical feasibility constraints would vanish, and Realism's ethical analysis would converge with ideal theory. However, given the vast disparity between current policies and ideal climate justice, and the diverse, potentially inconsistent set of possible mitigation strategies, Realists would question whether ideal theory can usefully guide policy. Realism suggests that Cosmopolitan prescriptions could not easily be implemented, and even limited steps toward such transformative change would have unpredictable consequences – positive and negative – which mean ideal theory provides an imperfect guide to averting future climate harms.

Classical Realist climate policy

Realism advises state decision-makers who are faced with a serious systemic threat like climate change to select feasible policies that advance a conception of national interest that has been broadened to take account of both traditional security concerns and system preservation. While recognising that ambitious international mitigation would be rationally desirable, Realist analysis anticipates that ambitious global action will be unlikely until technological innovation unambiguously decouples relative power, wealth, and greenhouse gas emissions. If effective mitigation

[91]See Peter Singer, *One World: The Ethics of Globalization* (New Haven: Yale University Press, 2004), pp. 45–6; Aubrey Meyer, *Contraction and Convergence* (Devon: Green Books, 2000). Conversely, Ott and Sachs argue for diminished responsibility where states are 'locked in' to high emissions by infrastructure constructed before 1990; see Hermann Ott and Wolfgang Sachs, 'The ethics of international emissions trading', in Luiz Pinguelli Rosa and Mohan Munasinghe (eds), *Ethics, Equity and International Negotiations on Climate Change* (Northhampton: Edward Elgar Publishing, 2002), pp. 159–78.

[92]Olivier et al., *Trends in Global*, p. 43.

[93]Peter J. Loftus, Armond M. Cohen, Jane Long, and Jesse D. Jenkins, 'A critical review of global decarbonization scenarios: What do they tell us about feasibility?', *Wiley Interdisciplinary Reviews: Climate Change*, 6:1 (2015), pp. 93–112.

[94]See Posner and Weisbach, *Climate Change Justice*.

[95]Steve Vanderheiden, 'Globalizing responsibility for climate change', *Ethics & International Affairs*, 25:1 (2011), pp. 65–84 (p. 66).

is infeasible, a Realist should critically assess 'lesser evils' – measures whose lower cost or greater feasibility enhances leaders' flexibility to pursue them despite limited support.

Before turning to these specific policy measures, it is important to observe that while Realism is primarily concerned with foreign policy, it also has implications for the state's relationship with domestic interest groups. Consider Realist balance-of-power theory. Although usually discussed with reference to external alliances, Realist balancing also encompasses *internal efforts* to develop new strategies that increase economic and military strength. Thus, Mark Taylor's analysis of how national innovation rates increase in the context of external competition and threats might be read as a contribution to Realist analysis.[96]

In order to explain why external threats correlate with higher national innovation rates, Taylor begins with the observation that technological change of all kinds has distributive effects. Those who lose out from innovation are often established industries that wield considerable political influence. These vested interests will typically pressure governments to slow the pace of change (through regulatory measures, taxes, subsidies, etc.). However, if external threats prompt a need for 'internal balancing' this creates political pressure in the opposite direction. If governing elites believe innovation will enhance national military or economic security, systemic forces will push them to resist lobbying by incumbent industries.

The Realist idea of internal balancing thus has parallels in climate policy. Both internal balancing and climate mitigation typically depend on governments' capacity to advance an innovation and reform agenda against the wishes of powerful domestic lobbies. Consider an example such as Angela Merkel's acquiescence to auto-industry lobbying, which led her government to water down the EU's emission standards.[97] In the past, the Realist idea of 'internal balancing' has suggested that governments should drive domestic reform as a way of enhancing national security. If the 'national interest' is understood to also encompass climate security, mitigation-linked policy should gain similar status to military security. In this case overcoming sectional resistance can also be justified by the logic of *raison d'état*. Of course, where there is a conflict between mitigation and security interests, Realists will likely prioritise security. But Realist logic suggests that states should not allow sectional interests to block economically optimal mitigation measures (for example, carbon pricing) simply because of their distributional consequences. Realism's view that state leaders should advance the 'national interest' in both their internal and external actions would inform each of the specific policy responses that follow.

Breakthrough energy research

Classical Realists, such as Morgenthau, were sceptical about the capacity of technological advances to resolve the recurring dilemmas of political life. It is thus ironic that as early as 1993 Realist thinkers were already pointing to accelerated low carbon research and development (R&D) as a promising avenue through which affluent states might pursue climate action.[98] Arguably, a research-focused climate response should not be viewed as a lesser evil, as economic analyses identify technology policy as an essential part of any efficient global decarbonisation strategy.[99] Further, the IPCC has noted that development of 'new technologies is crucial for the ability to Realistically implement stringent carbon policies'[100] and some climate justice theorists,

[96]Mark Taylor, 'Toward an International Relations theory of national innovation rates', *Security Studies*, 21:1 (2012), pp. 113–52.

[97]Christoph Mazur, Marcello Contestable, Gregory J. Offer, and N. P. Brandon, 'Assessing and comparing German and UK transition policies for electric mobility', *Environmental Innovation and Societal Transitions*, 14 (2015), pp. 84–100 (p. 96).

[98]Gray and Rivkin, 'A "no regrets" environmental policy', p. 53; Victor, *Global Warming*, pp. 115–64.

[99]See, for example, Nicholas Stern (ed.), *Stern Review on the Economics of Climate Change* (London: HM Treasury, 2006); Garnaut, *The Garnaut Review 2011*.

[100]Eswaran Somanathan, Thomas Sterner, Taishi Sugiyama, Donald Chimanikire, Navroz K. Dubash, Joseph Kow Essandoh-Yeddu, Solomone Fifita et al., 'National and Sub-national Policies and Institutions', in IPCC [O. Edenhofer et al.

such as Henry Shue, have called on capable states to drive technological transition.[101] Since state investments have driven recent advances in low carbon technologies (solar photovoltaic efficiency, perovskite solar cells, storage technologies, advanced nuclear fusion and fission)[102] it seems that a weak version of this strategy is already being implemented. However, economic analysis suggests investments should be somewhere between three and ten times greater in order to limit warming to 2 °C above preindustrial levels.[103] Nevertheless, even a more aggressive 'economically ideal' innovation-led strategy would be unjust if it were accompanied by an otherwise inadequate or inequitable global response.

Realism suggests that the most feasible climate mitigation strategies will be those that align with states' narrowly conceived self-interests. In this context, interstate rivalry's positive impact on national innovation rates through the dynamic of internal balancing is potentially a cause for optimism.[104] As noted earlier, China's ambitions to deploy, export, and gain technological leadership in wind, solar, and nuclear power illustrate this dynamic.[105] However, since a researching state cannot capture all the positive externalities of energy research, no self-interested state is likely to shoulder the low carbon innovation burden alone. While some urge the United States to fund breakthrough research unilaterally,[106] Realists anticipate unilateral efforts will be inadequate. It is true that states will support some forms of innovation, motivated by the rents that accrue to patent holders.[107] However, feasibility constraints similar to those that block ambitious mitigation also stifle innovation on a scale recommended by economists like Sir Nicholas Stern or Ross Garnaut[108] – these constraints include limited political support, long timeframes, and the likelihood that benefits of innovation will not be captured locally.

Nevertheless, both domestic and international politics are much more conducive to energy research than to direct mitigation. Game-theoretical analysis suggests that international low carbon research cooperation is considerably more feasible than is mitigation because the costs of energy research are lower, and the near-term national benefits arising from state-funded research are greater.[109] States could also design an international treaty so that contributors to a coordinated research effort capture many benefits for themselves.[110] If most financial benefits of new technologies flow to contributing states while the positive externality of averted climate change benefits the entire global community, then a research treaty might simultaneously advance the interests of both powerful states and vulnerable people.[111] Such a research-led strategy would

(eds)], *Climate Change 2014: Mitigation of Climate Change. Contribution of Working Group III to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change*, s15.6.6, p. 1178.

[101]Henry Shue, *Climate Justice: Vulnerability and Protection* (Oxford: Oxford University Press, 2014), pp. 225–43.

[102]See Erick Lachapelle, Robert MacNeil, and Matthew Paterson, 'The political economy of decarbonisation: From green energy "race" to green "division of labour"', *New Political Economy*, 22:3 (2017), pp. 311–27; Mariana Mazzucato, *The Entrepreneurial State: Debunking Public vs. Private Sector Myths* (New York: Anthem Press, 2015); Varun Sivaram, *Taming the Sun: Innovations to Harness Solar Energy and Power the Planet* (Cambridge, MA: MIT Press, 2018).

[103]Stern (ed.), *Stern Review*; Ross Garnaut, *The Garnaut Climate Change Review* (Melbourne: Cambridge University Press, 2008), pp. 219–23, available at: {http://garnautreview.org.au/}; see also International Energy Agency, 'Tracking Clean Energy Progress 2013: IEA Input to the Clean Energy Ministerial' (2013), available at: {http://www.iea.org/publications/tcep_web.pdf}.

[104]Taylor, 'Toward an International Relations theory of national innovation rates'.

[105]Kennedy, 'Powerhouses or pretenders', pp. 281–302.

[106]Shue, *Climate Justice*, pp. 225–43.

[107]See Lachapelle, MacNeil, and Paterson, 'The political economy'; Henry Shue, 'Ethics, the environment and the changing international order', *International Affairs*, 71:3 (1995), pp. 453–61.

[108]Stern (ed.), *Stern Review*; Garnaut, *The Garnaut Climate Change Review*.

[109]Johannes Urpelainen, 'Technology investment, bargaining, and international environmental agreements', *International Environmental Agreements*, 12:2 (2012), pp. 145–63.

[110]Ibid.

[111]Barry W. Brook, Kingsley Edney, Rafaela Hillerbrand, Rasmus Karlsson, and Jonathan Symons, 'Energy research within the UNFCCC: a proposal to guard against ongoing climate-deadlock', *Climate Policy*, 16:6 (2016), pp. 803–13.

take decades to succeed and rising emissions during this period would harm both state interests and vulnerable populations. However, a Realist would support this imperfect strategy if there is no more feasible path to ambitious mitigation.

The twenty-state pre-Paris 'Mission Innovation' (MI) pledge to double spending on clean energy research, which was engineered by President Obama and Bill Gates, is an instructive example. MI's ongoing success will turn upon its receiving lasting domestic political support across major participating states, and this seems improbable since the election of the Trump administration. Nevertheless, MI exemplifies Morgenthau's ambition for the 'promotion in concert' of multiple states' 'national interest'. Realism, cognisant of state leaders' limited policy discretion, might direct their ethical attention to areas such as innovation where cooperative action is comparatively feasible and can reduce systemic risks.

Solar geoengineering

SG refers to a set of techniques that counteract global warming by increasing the Earth's reflectivity and thus reducing absorption of solar energy. Although there are multiple possible SG techniques, dispersal of aerosols in the stratosphere has dominated discussion because it could cheaply negate warming on a global basis using existing technologies.[112] The 1991 eruption of Mt Pinatubo demonstrated the potential for stratospheric sulphates to reduce global temperatures, but it also made clear that SG could disrupt weather patterns and have potential adverse implications for agriculture and species distribution.[113] While there are also less disruptive and more easily reversed techniques, such as ocean cloud brightening, all forms of SG have complex impacts and none address ocean acidification. Despite these flaws, might a Realist ethical analysis endorse SG as a lesser evil?

Economists typically argue that geoengineering's role in an optimal economic response to climate change would be minimal, as aggressive early mitigation would produce greater benefits.[114] Ethicists have also identified objections creating a 'presumptive argument' against SG, including difficulty gaining consent from affected communities, moral hazards, and 'ontological impoverishment' through the loss of a distinct natural world.[115] This literature is correct to identify SG as undesirable. However, from a Classical Realist perspective it errs by comparing SG against an ideal response rather than against feasible alternatives.

Realist ethical analysis might instead focus on: (1) SG's security consequences given the potential for international disagreement and conflict over its deployment;[116] and (2) whether SG would raise national welfare (perhaps also taking some account of global human welfare) under any elevated future atmospheric CO_2 concentration. Answering these questions will require further research. While early implementation of SG might minimise the risks of run-

[112]Estimates suggest existing SG technologies could negate anthropogenic warming for around US $10 billion per year in the next half century, although costs would likely be much higher. See Ryo Moriyama, Masahiro Sugiyama, Atsushi Kurosawa, Kooiti Masuda, Kazuhiro Tsuzuki, and Yuki Ishimoto, 'The cost of stratospheric climate engineering revisited', *Mitigation and Adaptation Strategies for Global Change*, 22:8 (2017), pp. 1207–28; Marlos Goes, Nancy Tuana, and Klaus Keller, 'The economics (or lack thereof) of aerosol geoengineering', *Climatic Change*, 109:3–4 (2011), pp. 719–944.

[113]Oliver Morton, *The Planet Remade: How Geoengineering could Change the World* (Princeton: Princeton University Press, 2015).

[114]Goes, Tuana, and Keller, 'The economics', pp. 719–944.

[115]Christopher Preston, 'Re-thinking the unthinkable: Environmental ethics and the presumptive argument against geoengineeering', *Environmental Values*, 20:4 (2011), pp. 457–79 (p. 476).

[116]Robert Keohane, 'The global politics of climate change: Challenge for political science', *PS: Political Science & Politics*, 48:1 (2015), pp. 19–26 (pp. 22–3); Kingsley Edney and Jonathan Symons, 'China and the blunt temptations of geoengineering: the role of solar radiation management in China's strategic response to climate change', *The Pacific Review*, 27:3 (2014), pp. 307–32; Joshua B. Horton and Jesse L. Reynolds, 'The international politics of climate engineering: a review and prospectus for international relations', *International Studies Review*, 18:3 (2016), pp. 438–61 (pp. 448–50).

away climate change (for example, melting permafrost in Canada, Russia and Greenland releasing trapped methane), Realism also counsels prudence. SG's differential impacts on regional weather patterns has the potential to provoke international tension and coalition-building.[117] Consequently, Classical Realist analysis would likely suggest that research and implementation should be subject to multilateral oversight, at minimum involving cooperation of all great powers.[118]

A Realist analysis would thus likely support multilateral research and experimentation to assess SG's potential and, if politically feasible and environmentally valuable, to bring SG technologies to a deployment-ready state. However, Realist arguments can also be made against SG; since Realism counsels against hubris and worries over misperception of state intentions, a Realist would approach SG with considerable caution. Thus the Realist mode of reasoning offers resources through which opponents of SG might avoid it being framed as a 'Realist' inevitability.

Structuring mitigation agreements

While Realists anticipate that only an economically inconsequential global agreement, such as the Paris Agreement, will be politically feasible this does not imply that the UNFCCC process has achieved nothing. UNFCCC negotiations keep climate change on domestic political agendas, require states to measure and report national emissions, to set NDCs and to assist developing states. Recognition that these efforts are inadequate does not imply that they should be abandoned. Instead, Realist consequentialism suggests that since maximising ambition is of paramount importance, great power interests rather than ideal standards of justice should guide regime design.

Realists view international agreements as epiphenomenal in that they are only effective when imposed by great powers. Consequently, Realists anticipate agreements and organisations will fail or fade into irrelevancy if parties insist on a thick interpretation of equity norms (like CBDR). In the Realist view, to the extent that the Paris Agreement relaxes the equity norms and has minimal implications for Sino-US rivalry, these should be viewed as desirable features that boost the Agreements' anticipated effectiveness.

Realist ethical reasoning supports 'unjust' distributions of costs and benefits if this injustice significantly enhances the prospects for effective international cooperation. While it would be unjust to design an international agreement so that powerful states capture an increased share of the resulting cooperative surplus, Realist ethics endorse unjust means if they significantly reduce future harms. For example, the Waxman-Markey Bill presented to the US Congress would have applied carbon equalisation measures at the border, equalising the embodied cost of carbon in imported and domestic products. While this has been criticised as an 'unjust' abrogation of US' leadership responsibilities,[119] Realism judges measures against their consequences, which would include their effectiveness in lifting states' mitigation ambition. Were the EU (or China) to impose similar taxes, as President Macron has repeatedly proposed,[120] a Realist ethical assessment would again hinge on these measures' impact on global emissions. The paramount importance and innate difficulty of achieving international mitigation suggests

[117]Katharine L. Ricke, Juan B. Moreno-Cruz, and Ken Caldeira, 'Strategic incentives for climate geoengineering coalitions to exclude broad participation', *Environmental Research Letters*, 8:1 (2013), p. 014021.

[118]Keohane, 'The global politics of climate change', p. 23.

[119]Robyn Eckersley, 'The politics of carbon leakage and the fairness of border measures', *Ethics and International Affairs*, 24:4 (2010), pp. 367–93.

[120]Emmanuel Macron, 'Discours du Président de la République, Emmanuel Macron, lors de la COP23 à Bonn' (17 November 2017): available at: {http://www.elysee.fr/declarations/article/discours-du-president-de-la-republique-emmanuel-macron-lors-de-la-cop23-a-bonn/}.

cooperation to secure essential global public goods might be considered an independent normative goal.[121]

Conclusion

The Realist concept of a generalised 'national interest' that purports to transcend the interests of dominant social classes is usually said to derive its content from the context of anarchy – security is a public good that can only be provided by the state.[122] A safe climate is also a shared national interest, yet the causal dynamics and spatiality of climate change mean that no state acting alone can provide 'climate security'. Moreover, climate harms arise as an unintended consequence of the routine functioning of the international economy and political system. Consequently, Realist logics might appear irrelevant to climate politics. However, I have argued that Realists' experience with previous existential threats might contain lessons for climate policy. In response to the earlier systemic threat of thermonuclear omnicide, Morgenthau argued that state leaders might escape the logic of anarchy through collective pursuit of expanded interests. The policies he despairingly recommended mirror the climate policies discussed in this article: prudent pursuit of collective national interests (a research-led multilateral response or mitigation agreements structured around great power interests) and self-help measures in the case of failure (adaptation or collectively governed SG).

Classical Realism's analysis of the feasibility constraints challenging state decision-makers raises important ethical questions that are seldom considered by political theorists.[123] While I have focused on dilemmas surrounding mitigation policies, Realist ethics also raise wider questions. Consider evidence that the first-term Obama administration responded to perceived political constraints by minimising public reference to climate change in an effort to protect funding for actual climate programs.[124] Is such strategic downplaying of climate policies ethical? Realist ethics answer yes, as it engages with the harsh realities of limited public engagement, powerful corporate opposition to climate action, and seeks to guide leaders along a perilous political tightrope toward minimising climate threats. However, this example also illustrates how Realism's preoccupation with feasibility can risk collapse into cynical realpolitik. Careful reflection on Realist ethics is therefore essential for those who wish to advocate ambitious, feasible policy while countering Realism's status quo bias.

If feasibility constraints continue to obstruct climate justice, the Paris Agreement's weakening of CBDR may by only the first of many 'lesser evils' justified by Realist logic. For example, it is possible that as our failure to achieve the 1.5 °C aspiration established by the Paris Agreement becomes apparent, this aspirational target may be seized upon by advocates of preemptive geoengineering. Given that there are strong Realist arguments against SG, opponents might usefully canvas Realist logics as well as more idealistic arguments. Today, the implicit Realist arguments that continue to influence policymakers are rarely directly engaged and Classical Realism's integration of positive and normative analysis is not utilised in discussion of climate ethics. Cosmopolitan climate justice theorists, who have been entirely correct in diagnosing climate-linked injustices, may view Classical Realism as too disconnected from ideal standards to qualify as a normative argument. However, if climate negotiations continue to be influenced by Realist logic, then it may be valuable to develop and scrutinise the Realist mode of ethical thought.

[121]Jonathan Symons, 'The "non-cooperator pays principle" and the climate standoff', in Paul Harris (ed.), *China's Responsibility for Climate Change: Ethics, Fairness and Environmental Policy* (Bristol: Policy Press, 2011), pp. 99–120.

[122]Kirshner, 'The tragedy', p. 56.

[123]See Elizabeth Cripps, 'Climate change, collective harm and legitimate coercion', *Critical Review of International Social and Political Philosophy*, 14:2 (2011), pp. 171–93.

[124]Graciela Kincaid and J. Timmons Roberts, 'No talk, some walk: Obama administration first-term rhetoric on climate change and US international climate budget commitments', *Global Environmental Politics*, 13:4 (2013), pp. 41–60.

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Jonathan Symons is a Senior Lecturer in International Relations at Macquarie University, Sydney. His current research focuses on global climate politics and international norm polarisation in respect of sexuality and human rights.

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