11 Listening to and Caring about the Other: The Ethics of Political Research in the Anthropocene

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What happens when scholars study a radically changing world? What do researchers do when fundamentally new facts present themselves, facts that shatter previous disciplinary assumptions? Although a conceptual innovation, the Anthropocene captures a fundamentally new reality. It points to humanity's ubiquitous presence on earth. It indicates that, after living for millennia by influencing only pockets of the planet, humanity's impact has become co-extensive with the earth itself. Can the study of politics simply carry on in light of this novel condition? Can the discipline continue in its traditional ways as it tries to explain the political world in the Anthropocene?

In 1948, Albert Einstein sent a letter to the Peace Congress of Intellectuals in Wrocław, Poland. Written after the end of World War II, Einstein argued that the advent of nuclear weapons represented an unprecedented historical break. Nuclear weapons granted "mankind [sic] the means for his [sic] own mass destruction."[1] They gave humans power over life and death on a scale unimaginable to previous generations and with implications for all future generations. For Einstein, crossing this threshold could not go unnoticed. It demanded new obligations for states and the international community, and, as his letter makes clear, new responsibilities for intellectuals. Nuclear weapons were "not comparable to anything in the past. It is impossible, therefore, to apply methods and measures which at an earlier age might have been sufficient."[2] The Anthropocene confronts scholars with a similar challenge. Although the Anthropocene does not represent, in and of itself, mass destruction, the dangers it includes force scholars to reassess their disciplinary practices. At a minimum, it calls on them to recontextualize the questions they ask and adopt a sensitivity toward what is at stake. As I will show, this involves conceptual, epistemological, and ethical expansion. It requires researchers to extend their foci horizontally to further reaches of time and space, and vertically deeper into the lives of those who are most vulnerable to the perils associated with the Anthropocene.

The chapter advances such expansion. It does so by making two, main points. First, it argues that the Anthropocene is not ethically neutral but rife with injustices that demand scholarly attention. The Anthropocene is unfolding in ways that exacerbate unfair treatment of the most vulnerable. Although the Anthropocene represents the Age of Humans, it more accurately should be termed the Age of *Some* Humans. Not everyone has their hands on the reins of planetary, ecosystem power. Far from it. A quick study of the social dynamics of climate change—arguably the most dramatic expression and current driver of the Anthropocene—reveals that the patterns of carbon extraction, processing, and emissions greatly amplify social injustices (see Baskin, this volume). Recognizing and understanding the dynamics involved is essential for carrying on relevant political research in the Anthropocene.

[1] Einstein, Albert. 1995. *Ideas and* Opinions. New York: Broadway Books, 140.
[2] Ibid., 148

Second, the chapter suggests guideposts for carrying out relevant Anthropocene scholarship in light of attending injustices. It calls on researchers to question two academic orthodoxies that have long influenced the discipline of political studies but which work against an appreciation for the ethical dimensions of the Anthropocene, namely, the veneration of value-neutrality and the exclusive focus on the human sphere in political analysis. The chapter makes the case for relaxing strict standards of value-neutrality and explains how this can, paradoxically, discipline inquiry in the Anthropocene. It makes clear, in other words, the scholarly benefit of normative political studies. Secondly, the chapter also explains how the more-than-human dimension of life does not disappear or even diminish in the Anthropocene but remains an abiding presence and has an, often unseen, political influence. The chapter calls for researchers to expand their scholarly gaze beyond the state, civil society, the economy, and similar social parameters to include the nonhuman in their inquiries and thus be able to capture the broader terrain of Anthropocene politics. Taken together, these two recommendations aim to fold ethical considerations into contemporary political scholarship.

The chapter ends by noting that the Anthropocene not only demands that we, as researchers, "revolutionize our thinking," as Einstein recommended,[3] but also "revolutionize our feelings." Although merely a geological designation, the Anthropocene calls on scholars of politics to deepen their sympathies and work on behalf of the most vulnerable.

The Injustice of Climate Change

In *The End of Nature*, Bill McKibben (1989) set the popular stage for the Anthropocene. McKibben showed how the scale and intensity of human intervention into the earth's water, soil, air, and biological functions signals not simply a crossing of the divide between humans and nature but humanity's wholesale colonizing of the nonhuman world. For McKibben, this was long in the coming. Increasing human population matched with wealth, technological power, and insatiable consumption were driving people to dig deeper into and across the earth to extract resources and dump wastes. While one could see this in deforestation, water contamination, and loss of biological diversity, it was climate change that McKibben announced as the death knell of nature. As he put it, "We have changed the atmosphere and thus we are changing the weather. By changing the weather, we make every spot on earth man-made and artificial."[4] Climate change, in other words, indicates humanity's comprehensive takeover of the natural world. It reveals that humanity is not simply one among many species but the dominant one. By placing its signature everywhere, humanity robs nature of its ontological independence and becomes the central pulse and default driver of the planet's ecological fate. One can no longer wake up in the morning and comment on what a beautiful day the earth has given us; one must acknowledge what a beautiful day humanity has partially manufactured, and how humanity will partly manufacture all days going forward. As the most dramatic instance of the end of nature, climate change provides the conceptual entryway into the Anthropocene.

Focusing on climate change reveals the moral dimensions of the Anthropocene. Throughout the entire process of carbon excavation, processing, and emissions, some

[3] Ibid., 150.
[4] McKibben, Bill. 1989. *The End of Nature*. New York: Random House, 58.

people benefit while many others suffer. This is because the carbon economy is a gigantic shell game wherein the benefits of burning carbon accrue in certain areas and to certain people while the costs impose themselves elsewhere. At the heart of the enterprise is a type of moral blindness. Many simply do not wish to see that the carbon economy lives off of the practice of displacement—the shifting of burden and pain to those least likely to complain or have the political resources to resist.

Consider the extraction of fossil fuels. This happens not through some process that magically lifts oil, gas, and coal deposits to the earth's surface but involves much drilling, pulverizing, exploding, and otherwise debasing land and water with significant consequences to surrounding communities. For instance, those living near coalmines—especially where miners blow off the tops of mountains to expose coal deposits—endure defaced landscapes, polluted streams, increased flooding, and unsafe coal slurry impoundments.[5] Similarly, those living near oil installations live with explosions from seismic surveys, air, water, and soil contamination from drilling fluids and refinery effluents, blowouts, and the defilement of surrounding land as it is used for industry infrastructure.[6] This is also the case with those living around hydraulic fracturing facilities. The depletion and contamination drinking water, the rumble of earth-moving vehicles, and persistent anthropogenic earthquakes are among the hazards that local communities must endure.[7] Meanwhile, on the other side of town, as it were, are those who get to enjoy the benefits produced by such hardship. They live off of, but spatially far from, what have been called, "sacrifice zones."[8] At work is not simply the dynamics of economic markets but the moral choice to ignore or depreciate the lives of those living on the frontlines of extraction.[9] It involves the privileged displacing the afflictions of fossil fuel extraction to those who are too marginalized to care or resist.

Displacement also takes place when fossil fuels are burned. Yes, carbon emissions circulate throughout the atmosphere and pay no attention to zip codes, county or state lines, or even nation-state boundaries. They accumulate in the blanket of greenhouse gases that surrounds the planet and thus do not discriminate. However, once they have lodged into the layer of gases, the effects are anything but fair. Widespread research has shown that the poor disproportionately suffer from climate change. The poor occupy the most fragile lands; they live in the most insecure structures; they lack access to resources to respond to intensified storms, and are the last to receive aid.[10] Moreover, they have made the least contribution to climate change. Countries like Nepal and Bangladesh, for instance, get almost all their energy from hydroelectric power and a small amount from biomass. Yet, due to a combination of typography and poverty, they

[5] Bozzo, Laura. 2012. "Beyond Muntaintop Removal: Pathways for Change in Appalachian Coalfields," *Duke Forum for Law and Social Change*, Vol. 4, no. 155.. (http://scholarship.law.duke.edu/cgi/viewcontent.cgi?article=1029&context=dflsc)

[6] Dabbs, W. Corbett. 1996. "Oil Production and Environmental Damage," *Trade and Environment Database*, 1996, http://www1.american.edu/ted/projects/tedcross/xoilpr15.htm.

[7] U.S. EPA. 2016. *Hydraulic Fracturing for Oil and Gas: Impacts from the Hydraulic Fracturing Water Cycle on Drinking Water Resources in the United States* (Final Report). U.S. Environmental Protection Agency, Washington, DC, EPA/600/R-16/236F.

[8] For the concept of "sacrifice zones," see, Lerner, Steve. 2012. *Sacrifice Zones: The Frontlines of Toxic Chemical Exposure in the United States*. Cambridge, MA: MIT Press.

[9] For an insightful explication of the concept of sacrifice in environmental affairs, see Maniates, Michael and John Meyer, eds. 2010. *The Environmental Politics of Sacrifice*. Cambridge: MIT Press.

[10] Wapner, Paul. 2016. "Climate of the Poor: Suffering and the Moral Imperative of Radical Resilience," in Paul Wapner and Hilal Elver, *Reimagining Climate Change*, London: Routledge; Parenti, Christian. 2011. *Tropic of chaos: Climate change and the new geography of violence*. New York: Nation Books..

are among the most vulnerable to climate disruption.[11] To be sure, the wealthy do not target the poor with the consequences of climate change but the result is still the same. Able to avoid climate hardship, the privileged live essentially off the backs of the most vulnerable or, put more accurately, export the dangers associated with climate change.

Displacement involves not only exploiting those living "downstream," as it were—those who must live today with the burdens of extraction, processing, and so forth. It also includes robbing future generations. Consider the temporal dimension of fossil fuel extraction. Life becomes fossilized over geological time. Oil, gas, and coal represent thousands if not millions of years of decay. Thus, for all intents and purposes they should be considered finite. And yet, current generations are using them at breakneck speeds that not only outpace replenishment but promise scarcity to future generations. If humanity keeps digging fossil fuels out of the ground, at some point, there will be little to none left for future generations. This may seem like a non-issue since, having burned so much fossil fuel the planet will have already experienced or will have set into motion the conditions for catastrophic climate change. However, it points to a broader pattern at the heart of the carbon economy—namely, a moral indifference to future generations. Using oil, gas, and coal with abandon today robs those coming after us of carbon options. It refuses to live with the reality of finite reserves and simply displaces the burden of living without fossil fuels to future generations. It represents the exportation across time of carbon burdens (see Galaz, this volume). This takes on a moral character to the degree that, like current generations who live downstream, future generations have no political or economic voice, and thus they are the most apt to be ignored or exploited.

The carbon economy likewise displaces burdens across time when it comes to emissions. The world is already feeling the effects of climate change in the form of intensified storms, fiercer and more frequent wildfires, rising sea levels, melting glaciers, and punishing heatwaves. As mentioned, these may visit everyone but take a disproportional toll on the poor and politically weak. However, it is well known that current climate realities pale in comparison to future projections. The international community has agreed that once temperatures increase over two degrees Celsius, the world will face runaway climate change as positive feedback loops such as melting permafrost and the over-acidity of the oceans come into force. The Intergovernmental Panel on Climate Change estimates that, at current and even reduced levels of fossil fuel consumption, the world will likely cross the two-degree threshold sometime before the end of the century.[12] One might ask how those of us living today can continue burning fossil fuels, cutting down trees, grazing cattle, and otherwise emitting greenhouse gases knowing that the direst effects will come in the future. On some level, the only reasonable answer is that we simply do not care enough about those coming after us. By using fossil fuels or contributing to the buildup of greenhouse gases today, we are essentially choosing to export the costs across time—to those who present generations never see and certainly do not hear from.

[11] Szabo, S., E. Brondizio, F. Renaud,, S. Hetrick, R. Nicholls, and Matthews, Z. et al. 2016. "Population dynamics, delta vulnerability and environmental change: comparison of the Mekong, Ganges Brahmaputra and Amazon delta regions. *Sustainability Science*, 11(4), 539-554 (http://dx.doi.org/10.1007/s11625-016-0372-6); VeRisk, 2010. "Risk Calculators and Dashboard," Maplecroft. (http://maplecroft.com/about/news/ccvi.html)

[12] Intergovernmental Panel on Climate Change AR5, "Summary for Policy Makers," p. 20 (http://www.climatechange2013.org/images/report/WG1AR5_SPM_FINAL.pdf).

There is a final category of beings who silently suffer the consequences of climate change, namely, other species. Mining, processing, transporting, and burning fossil fuels involves all kinds of violence perpetrated on the more-than-human world. We rarely hear about this because, of course, plants and animals have no voice in our world. We only learn about their suffering when humans speak up on their behalf. Sadly, this is all too rare. Consider, for instance, drilling facilities, which are the beginning of the extractivist process. Their use and release of effluents are known to contaminate aquatic environments with lethal and sub-lethal effects. Marine life is especially sensitive to various concentrations of toxic substances used to extract oil.[13] On land, extraction of fossil fuels can involve deforestation—and thus the loss of habitat—as areas are cleared to locate, excavate, and transport deposits. Moreover, runoffs from petroleum processing and petrochemical plants often contaminate nearby soil and streams, and pollute the air.[14] The same happens with regard to coalmining, hydraulic fracking, and conventional natural gas installations. This takes its toll on various plants, birds, and other local creatures. Plants and animals have essentially no role in the buildup of carbon dioxide and other greenhouse gases. Yet, they stand at the frontline of climate hardship.

Other species suffer also from the emissions side. As should be obvious, increasing temperatures, changes in precipitation, rising sea levels, more acidic oceans, wildfires, and all the rest affect not simply humans but other animals, plants, and microorganisms. In fact, when it comes to on-the-ground effects of climate change, plants, animals, and so forth suffer arguably more than humans since most of them lack the ability to flee disasters. Animals are trapped in particular habitats by the buildup of human settlements and infrastructure. They cannot simply migrate across cities, highways, and other largescale human edifices. As many have noted, humans have created islands of habitat for the nonhuman world that are not only too small to maintain certain animal populations in the absence of climate change but are certainly too hemmed in to allow escape as temperatures rise, wildfires breakout, and waters flood.[15] Habitat fragmentation creates, essentially, "prisons" for animals in a climate age. The problem is even more dire for plants. Plants can migrate across land. In fact, the boreal forests of North America largely formed by trees and other species moving north following the last ice age. But we know that plants can move only so fast, and most analyses report that their speed is less than required to escape the pressures of climate change.[16] Moreover, plants have the same challenge as animals in moving across large scale human structures. They too are essentially trapped in their degrading habitat.

Those living downstream, in the future, and of a different species share one thing in common. They each lack political standing and thus are most easily exploited. One could say that this is not a moral issue but simply one of representation. But this would ignore the knowledge that many have of the consequences of their carbon actions as well as moral judgments that are implicitly being made. To be sure, very few are deliberately choosing to injure the most vulnerable. However, this does not relieve them of

[13] Wake, Helen. 2005. "Oil Refineries: A Review of their Ecological Impacts on the Aquatic Environment," *Estuarine, Coastal and Shelf Science*. 62 (1-2):131-140.

[14] Ingelson,Allan and Chilenye Nwapi, 2014. "Environmental Impact Assessment Process for Oil, Gas and Mining Projects in Nigeria: A Critical Analysis," *Law, Environment and Development Journal* 10(1):35, (http://www.lead-journal.org/content/14035.pdf).

[15] Quammen, David. 1997. *The Song of the Dodo: Island Biogeography in an Age of Extinction*. New York: Scribner .

[16] Ibid.

moral responsibility. When others suffer as a consequence of one's actions, moral duties emerge.

Climate change underpins the Anthropocene. It is the primary expression of humanity's impact on the earth. Scholars differ about the origins of the Anthropocene but almost every account includes the buildup of anthropogenic greenhouse gases as a marker distinguishing the present era from the Holocene.[17] To the degree that the dynamics of climate change involve structural patterns of injustice, one must understand the Anthropocene through morally sensitive lenses. Seen as such, it appears that *how* the Anthropocene is unfolding is as important as the fact of the Anthropocene itself. As mentioned, this is not precisely the Age of Humans but the Age of *Some* Humans. Recognizing this calls upon scholars to sensitize themselves questions of justice and enlarge their sympathies for those on the receiving end of climate change.

Moral Sensitivity in Political Research

Caring about others involves not simply developing a more compassionate sensibility but adopting a fiercer, more focused research agenda. That the Anthropocene is deepening social injustice should send shutters down everyone's back. Part of a researcher's obligation in the Anthropocene is translating such concern into engaged scholarship. This involves questioning orthodoxies that have long animated the study of politics and finding the moral fiber to move beyond them in the service of a more humane Anthropocene.

One central tenet of political research is value-neutrality. For decades, social scientists have been trained to set their political commitments aside so as not to blind themselves to false observations. The job of the political analyst is to see the world the way it *is*, not as they wish it *should* be. In politics, this is particularly challenging because many come to research subscribing to worldviews—such as Realism, Liberalism, or Marxism—that overlay events with implicit assumptions. This can lead to starry eyed utopianism or corrosive cynicism in terms of speculating about political possibility, and such predispositions can often sneak into one's research. One of the hallmarks of modernity, which produced the social sciences as disciplines, is the commitment to objectivity revealed through reason rather than faith or other non-rational epistemological capacities. As a result, social scientists (and all researchers) have been repeatedly warned against letting emotions, principled commitments, and philosophical orientations contaminate reason. Cold reason, not warm fuzzy affections, produce objective knowledge and thus researchers must work to keep values out of their work.

Over the past few decades, especially with the advent of postmodern political studies, many scholars have recognized the poverty or at least false promise of objectivity, and the limitations of reason as the sole form of inquiry. Many now understand that it is impossible to rid oneself of value commitments. (Indeed, it is difficult even to notice the precise ways such commitments intercede in one's scholarship.) Postmodern insights suggest that every researcher is animated by interests and that the "will to truth"

[17] Walters, Colin, et al. 2016. "The Anthropocene is Functionally and Stratigraphically Distinct from the Holocene," *Science*, 351 (6269): http://science.sciencemag.org/content/351/6269/aad2622

itself is a guise for advancing one's agenda.[18] Notwithstanding this understanding, much social science—and a fair amount of scholarship on global environmental politics—proceeds as if inquiry can still be free from value commitments. This is not to discount the value of utilizing empirical evidence within political research in the Anthropocene. While value-neutral studies continue to add to our understanding of the discipline, most researchers give an epistemological wink to postmodern criticisms and then continue as if merely being aware of the critiques gives license to do proper social scientific work. Put differently, social inquiry still pines for the imprimatur of "objective science" to be worthy. And this, as most of us have long been told, appears fundamentally at odds with values, principles, and commitments.

The injustices that sit at the core of Anthropocene shake up the aspiration for value-free research. They expose the raw character of our times and thus should pull at the heart-strings of researchers. In doing so, they not-so-much cloud one's vision but provide significance and direction for research. This does not mean that scholars abandon reason or engage simply in screeds against injustice. To the contrary, it calls on researchers to double-down their efforts to understand the political world with all available means, including reason. This is necessary because, if one wants to change conditions, one needs an accurate reading of them. It *does* mean, however, that researchers should not hide or otherwise minimize their normative commitments. Such concerns actually discipline one's research; they provide strictures for pursuing knowledge of what is most valuable. The Anthropocene raises the moral stakes of political research and thus provides, arguably for the first time, the momentum to move more fully beyond the orthodoxy of value-neutrality and embrace normative political scholarship. For decades, normative work has been viewed as mere commentary or at least second-rate research compared to so-called rigorous, exacting, rationalistic knowledge production. Living in the Anthropocene requires abandoning this prejudice and seeing the compatibility between normative and scientific work. Normative commitment is not the enemy but a necessary component of rationalist scholarship. In this sense, the Anthropocene simply provides new energy and justification for normatively-oriented work.

Practicing normative research opens up an additional tool for scholars, namely, their critical capacity for interpreting political life. In his study, *Representations of the Intellectual*, Edward Said constantly reminds readers of the Gramscian insight that intellectual work takes place under ideational hegemony. Research is never free floating or somehow outside of socio-economic, political conditions. However, Said recognizes that, with deep, persistent work, scholars can occasionally get out from underneath conventional strictures and, in so doing, take up the responsibility of speaking "truth to power."[19] This includes unmasking perpetrated falsehoods and, at a deeper level of intellectual excavation, making connections that are often denied and citing alternative courses of action that could have been taken. It involves, in other words, assuming a critical perspective and expressing the moral implications of doing so. For Said, the intellectual is neither a "pacifier nor a consensus-builder, but someone whose whole being is staked on a critical sense, a sense of being unwilling to accept easy formulas or ready-made clichés, or the smooth, ever-so-accommodating confirmations of what the powerful or conventional have to say, and what they do."[20] Said goes even further, how-

[18] Foucault, Michel. 2014. *Lectures on the Will to Know: Lectures at the College of France and Oedipal Knowledge*, NY: Picador.
[19] Said, Edward. 1996.*Representations of the Intellectual: The 1993 Reith Lectures*. NY: Vintage,8.
[20] Ibid., 23.

ever. He makes clear that taking up the responsibility of critical insight requires being sensitive to and assuming the obligation to work on behalf of the most vulnerable. He recognizes the structural violence that course through society—much like the exploitation that accompanies carbon economies—and believes that scholars must name these and align themselves with their victims. As he puts it, "There is no question in my mind that the intellectual belongs on the same side with the weak and unrepresented."[21] For Said and others, responsible scholarship is not simply about filling in knowledge gaps, knocking down "strawmen," or otherwise engaging in purely academic pursuits. Ideas matter; inquiry has consequences; research must advance the plight of the underprivileged. Anything less than this, is an implicit exercise in shoring up hegemonic structures themselves.

A second orthodoxy of political studies, and one that has special significance to environmental affairs, involves the so-called "unit of analysis" question. For decades, Political Science, International Relations, and related disciplines focused almost exclusively on the state as the main actor in public affairs. Domestically, the government holds dramatic power over collective life and, internationally, the state serves as the primary agent of world events. Scholars have traditionally taken this to mean that all relevant political activity centers around the state and therefore research should concentrate primarily on state affairs.

Since at least the 1990s, the state-centric model has been qualified as scholars recognized the importance of nongovernmental entities in domestic and global life. Activist groups, research institutes, corporations, artists, cultural trend-setters, and other actors in civil society significantly influence the way people think about and act in relation to public issues.[22] They have targeted and manipulated mechanisms of power strewn throughout societies and their efforts rival state action in shaping widespread thought and behavior.[23] Moreover, researchers have also shifted foci away from individual agents to structural factors in trying to understand world affairs. They have come to see states and other actors embedded in various cultural and material regimes that animate and instrumentalize individual actors, and this trend has also softened the state-centric model of politics.

The Anthropocene adds another crucial yet neglected unit of analysis, namely, the more-than-human world. In addition to state and nonstate actors and structural forces, the Anthropocene calls on researchers to include other species and ecological factors in their work. This may seem counter-intuitive. After all, as humanity's presence has grown coexistent with the earth itself, it may seem that the nonhuman world has grown less rather than more significant. Indeed, the whole idea of the Anthropocene is to underline the importance of human influence and thus it would seem inappropriate for researchers to target inquiry beyond the human realm. However, this would ignore the wider biopolitical context of the Anthropocene. Humanity may be the primary force shaping evolution, atmospheric conditions, and terrestrial ecosystems, but it does not do so in vacuum. It is still part of, dependent upon, and integrated into the natural

[21] Ibid., 23.

[22] See, e.g., Rosenau, James. 1990.*Turbulence in World Politics: A Theory of Change and Continuity*, Princeton: Princeton University Press.

[23] See, e.g., Keck, Margaret and Katherine Sikink. 1998. *Activists Beyond Borders: Advocacy Networks in International Politics*, Ithaca: Cornell University Press; Betsill, Michele and Elizabeth Corell. 2007. *NGO Diplomacy: The Influence of Nongovernmental Organizations in International Environmental Negotiations*, Cambridge: MIT.

world and no amount of self-reference in terms of the Anthropocene can erase this (see Nikoleris et al., this volume). Humans cannot exist for a moment without the ecological conditions that support life and cannot act into the world without intermingling with other creatures and geophysical conditions, and this becomes a matter of politics. Indeed, humans do not act *on* the earth, they act with it. They both alter the earth's chemistry, biology, and geology, and are altered by them. So, while humans have placed their signature everywhere, this does not mean that everything is human. Likewise, while people have delved deeply into and have modified the biological functioning of given plants and animals, and have forever scarred landscapes, this does not mean that the more-than-human world lacks an inimitable presence or agency. The most genetically modified organism is still not human; the most carbon-saturated sky is not wholly under human regulation. There is something other than humans out there, and this remains even in the midst of the Age of Humans.

When McKibben announced the end of nature, he did not claim that plants, animals, microorganisms, and minerals no longer exist (see Fremaux and Barry, this volume). Rather, he argued that the *idea* of nature had disappeared. People could no longer believe in a separate sphere devoid of human influence. Such independence evaporated with the onslaught of human encroachment and eventual colonization of nature through anthropogenic climate change. As McKibben puts it, "We have deprived nature of its independence, and that is fatal to its meaning. Nature's independence *is* its meaning; without it there is nothing but us."[24] It is important to note that, by saying "there is nothing but us," McKibben is not dismissing the complex panoply of other creatures and nonhuman processes. In fact, he has devoted much of his life to protecting other-than-human beings. Rather, he is claiming that they no longer exist on their own. Humans are now, forever, a part of them. Our characters and fates are bounded together. Humans and ecological elements no longer grow and develop in parallel fashion but co-evolve. The world and earth constitute a hybridity wherein one can no longer draw a boundary dividing the human and nonhuman domains.

The insight of hybridity stems from a broader understanding—increasingly confirmed by biology, physics, chemistry, and geology—that no organism exists or develops an essential character on its own, including humans. All beings are part of and co-constituted by wider ecological interdependencies. People may have imagined humans as the exceptional species and twisted this into the social preference for individualism, yet it is increasingly clear that individuality is, at best, a myth. All creatures, including humans, interact with and are partly formed in relation to a broader field of life and the elements. In the context of the Anthropocene, this means that, despite being enamored with humanity's geologic influence, there is still something beyond humans that plays a constitutive and, as will be shown, political role. There is still otherness at there. Appreciating this provides important research trajectories.

In a series of books and articles, cultural critic Donna Haraway explores, what she calls, companion species. Focusing initially on dogs but later on a whole host of other creatures, Haraway points out how people and other beings are bonded in "significant otherness."[25] That is, species rely on and mutually constitute each other. They signify

[24] McKibben 1989, 58.

[25] Haraway, Donna. 2007.*When Species Meet (Posthumanities).* Minneapolis: University of Minnesota Press; Haraway, Donna 2003.*The Companion Species Manifesto: Dogs, People, and Significant Otherness*. Cambridge: Prickly Paradigm.

not separate realms but integrated wholes. They exist in sympoietic relationship.[26] Many other thinkers—natural and social scientists as well as humanities scholars—deepen Haraway's views by seeing agency and even subjectivity in other beings, and explain the ways in which these articulate with and help shape human experience.[27] Indeed, there is an emerging industry of studies delineating the agential character of trees, grasses, fish, and even seemingly inanimate objects like rocks, streams, and mountains.[28] Crucially, these studies propose literal, not metaphorical, agency and even "intelligence." And, they emphasize the concept of "interbeing" ("this is, because that is")[29] and explain how humans do not simply act on nature but are also instrumentalized by it. For instance, Michael Pollan writes about how tulips, apples, and potatoes are not simply crops forever at the mercy of human intention but are partially manipulators of human activity. They organize human enterprise for their own benefit.[30] Likewise, he writes approvingly of the literature on plant intelligence which sees plants in general as possessing a type of awareness or motivation that endows them with an ability to "choose" and explains implications for human life.[31] Weber similarly writes of creatures' innate sense of desire and their inseparable relationships with other beings, and how humans are similarly implicated in this mélange.[32]

Studies such as these caution the self-referential character and even hubris embedded in the Anthropocene, and open up new research possibilities. They invite scholars to develop tools for including the nonhuman dimension of the Anthropocene in political analysis—to develop ways of studying genuine hybridity. A number of thinkers have started down such a path. They build on decades of ethical scholarship arguing for the intrinsic value of the more-than-human world—biocentrism and ecocentrism—and on theoretical work associated with biopolitics—the effort to conjoin biology and power and recognize practices that discipline living bodies.[33] Recent scholarship is also connected to efforts to expand the category of "the political," that has long been associated exclusively with humans.[34] At the heart of such efforts is the attempt to read power into all relationships and use categories of political analysis to understand the assemblage of life. This includes noticing how other creatures are affected by human politics *and* generative of human politics. Rafi Youatt, for instance, explains how categories such as sovereignty, community, and security—which often sit at the core of International Relations—cannot be understood separate from the consideration of other creatures. These tenets of political thought and practice are produced, as Youatt puts it, "interspecifical-

[26] Haraway, Donna. 2016. *Staying with the Trouble: Making Kin in the Chthulucene*. Durham: Duke University Press.

[27] See, e.g., Weber, Andreas. 2016. *Biology of Wonder: Aliveness, Feeling and the Metamorphosis of Science*. Gabriola Island: New Society Publishers; Bennett,*Jane.* 2010. *Vibrant Matter: A Political Ecology of Things.* Durham: Duke University Press.

[28] See, e.g., Abram**,** David2011. *Becoming Animal**:** An Earthly Cosmology*, NY: Vintage Press; Kohn, Eduardo. 2013. *How Forests Think: Toward an Anthropology Beyond the Human*, Berkeley: University of California Press; Grusin, Richard. 2015.*The Nonhuman Turn.* Minneapolis: University of Minnesota Press.

[29] Hanh, Thich Nhat. 2003. *Interbeing*, Full Circle Publishing.

[30] Pollan, Michael. 2002. *Botany of Desire: A Plant's Eye View of the World*, NY: Random House.

[31] Pollan, Michael. 2013. "The Intelligent Plant," *New Yorker*, December 23 and 30.

[32] Weber 2016.

[33] Foucault, Michel. 2003. *Society Must Be Defended": Lectures at the Collège de France*, 1975-1976, New York: Picador.

[34] Latour, Bruno. 2004. *Politics of Nature: How to Bring the Sciences into Democracy*, Cambridge: Harvard University Press.

ly."[35] They emerge as a mélange of species interactions.[36] One cannot fully understand them if one only studies human affairs.[37] Likewise, Livingston and Puar criticize the "singularity of humanness" in political studies and reveal the complicated character of biosocial life and its political effects. They describe historical instances wherein political events emerge out of "cohabitative interspecies encounters," wherein it is difficult to delineate human versus nonhuman agency.[38] Neel Ahuja provides a specific instance of this in explaining how insects have been used to torture prisoners and how the interplay structures practices of security.[39] Work along these lines draws connections between cultural and ecological inquiry—often linking critical race theory, post-colonial studies, and the so-called "animal turn"—to reveal the mutually constituted character of cultural and biological life. From a different angle, ethicists are now moving beyond endowing animals with negative rights—the freedom from harm and exploitation—to having positive ones, in the sense of granting levels of citizenship and representation to nonhuman animals.[40] They do so to acknowledge the political significance of other creatures. To be sure, this work is inchoate, suggestive rather than authoritative, and hard to translate into systematic research agendas. However, it represents an important scholarly qualification to the anthropocentric politics of old and of the enticingly anthropocentric politics of late—in the Anthropocene. It is difficult to know where such study will lead but recognizing it and struggling to include the more-than-human in one's research seems important in the Anthropocene. Such a perspective assumes ethical significance in that, while the Anthropocene has the potential to seduce researchers into thinking that humans are the only significant political agent, making room for the more-than-human is a moral act. It is the scholarly equivalent to humility—a virtue that appears increasingly quaint or at least embattled in the Anthropocene.

Conclusion

The Anthropocene represents not simply conceptual innovation but ethical responsibility for researchers of politics. This is because the Age of Humans has not catapulted us beyond social injustices but rather engraves them deeper and more expansively throughout the world. Fossil fuel economies run on injustice. The entire ensemble of excavation, processing, and emissions benefits some and immiserates many others.[41] By displacing environmental harm across space (to the vulnerable living downstream), across time (to the politically marginal of future generations), and across species (to the silenced world of the more-than-humans), people maintain a carbon economy on the backs of the weak, poor, and powerless. Many tend not to notice as the slow violence gets masked in the dizzying dynamics of market exchange, economic opportunity, and

[35] Youatt, Rafi. 2016. "Interspecies," in Teena Gabrielson, Cheryl Hall, John M. Meyer, David Schlosberg, eds., *The Oxford Handbook of Environmental Political Theory*, Oxford: Oxford University Press, 220.

[36] See, e.g. Burke, Anthony, Stefanie Fishel, Audra Mitchell, Simon Dalby, and David J. Levine. 2016. "Planet Politics: A Manifesto for the End of IR." *Milennium: Journal of International Studies.* 44(3): 499-523.

[37] See Youatt, Rafi. 2014. "Interspecies Relations, International Relations: Rethinking Anthropocentric Politics," *Millennium*, 34 (1)..

[38] Livingston, Julie and Jasbir Puar, 2011. "Interspecies," *Social Text.* 29(1_106):3-14.

[39] Ahuja, Neel. 2011. "Abu Zubayda and the Catepillar," *Social Text*, 29(1_106):127-149.

[40] Donaldson, Sue and Will Kymlicka. 2013. *Zoopolis: A Political Theory of Animal Rights*. Oxford: Oxford University Press.

[41] Klein, Naomi. 2015. *This Changes Everything: Capitalism Vs. The Climate*. New York: Simon and Schuster 2015.

the seeming right of people to pursue their own livelihoods. Moreover, it is often lost on observers in that "carbon casualties"[42]—whether people or nonhuman creatures—lack a political voice and thus their hardships go unheeded and often even unrecorded. In light of this, political researchers face the challenge of expanding their sympathies and translating this into meaningful scholarship.

Above, I suggested that this involves two kinds of adjustments. The first entails recognizing the moral imperative to embrace normative work and the importance of adopting a critical scholarly stance. In the shadow of the Anthropocene, value-neutrality appears as a luxury. It represents an intellectual posture for a world undisturbed by moral injury. This may have been relevant in the past when injustices racked only pockets of the world and animated merely sectors of activity. The Anthropocene, however, indicates that injustice is now global in the most literal sense. Extending human presence to the far corners of the earth and doing so in ways that reward the already rich and powerful and punish the poor and voiceless has created the specter of both grinding injustice and planetary fragility. If there ever was a time for researchers to embrace their values and let them direct research, the time is now. This does not mean jettisoning methodological rigor, turning scholarship into moral exhortation, or relaxing the standards of honest inquiry. It simply entails infusing one's scholarly aims with ethical momentum and deploying tools of research in the service of understanding and building a more humane Anthropocene. Political scholarship was never completely free from normative sensibilities but always looked down on them as impediments to quality work. The Anthropocene calls for looking up at them. It encourages researchers to use normative commitments to direct, guide, and discipline scholarship.

Of course, it should go without saying that normative commitment is no guarantee of ethical practice. One can subscribe to any number of standards of value. Indeed, many endorse normative principles that are at odds with caring about the least fortunate or environmental considerations, and thus the call for embracing normative scholarship may sound like merely wishful thinking. But just because there are different principles at work does not mean that they have no place in public life and, by extension, political scholarship. Explicitly stating one's normative commitments lays one's values on the line and thus exposing them to critique and emulation. More importantly, it awakens one to the purpose of one's scholarship and this seems particularly relevant in the Anthropocene.

The second adjustment involves expanding the object of analysis. Since its inception, the study of politics has almost wholly ignored the nonhuman world. In its modern formation, it focused domestically on governments and internationally on states. Scholars saw governmental institutions holding a monopoly of power. Over time, the discipline opened up its gaze to include nonstate entities and structural factors, and thus began a process of recognizing the *almost* ubiquitous, circulatory character of power. Researchers did not, however, extend their eyes beyond the social world. They especially left out the more-than-human dimension of life that includes other animals, plants, microbes, minerals, and general ecological features of earth. The Anthropocene might seem like the least likely age to consider the political consequence of the other-than-human dimension since it underlines the dominance of human planetary influ-

[42] This is the phrase used in the New York Times series on those adversely affected by climate change. See, e.g., Goode, Erica. 2016. "A Wrenching Choice for Alaska Towns in the Path of Climate Change," *New York Times*, November 29,.

ence. However, as I have tried to show, humanity's commanding geological presence has ironically awakened various scholars to the indispensable power of the nonhuman world. It has opened their eyes not only to ecological interdependencies and the co-constitution of human and nonhuman life, but to the politics of collective existence. If politics means anything, it involves the way power shapes a common destiny. The Anthropocene represents the age of humans and nature conjoining forces and moving toward a co-evolutionary future. Despite putting primacy on humans, it involves the entire assemblage of living and non-living things. Scholars studying politics in the Anthropocene would do well to recognize this.

In 1948, Einstein called on intellectuals to revolutionize their thinking. In the second decade of the 21st century, the Anthropocene calls for another revolution. This time it involves not only a cognitive one wherein people come to understand new and expansive dangers but also an ethical one premised on the deepening and globalizing of social injustice. The Anthropocene calls on political scholars to awaken to this ethical dimension and undertake research that is historically, conceptually, epistemologically, and, most important, morally worthy of the age.