

The Injustices inside Climate Science

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People often talk about the unjust distribution of the effects of climate change. They also analyze injustices committed in the name of climate change “mitigation” and “adaptation”. This note introduces a slightly different topic. It is about the injustices inherent in mainstream climate science, and in the ways that climate science shapes how we approach climate itself. It is also about how activists might reorient themselves with respect to this science in order to build better alliances.

Climate activists often hold up climate science as a justification for their actions. And with good reason. True, not everybody needs experts from the Intergovernmental Panel on Climate Change to tell them how serious global warming is. People in the Ganges Delta who have seen their houses dissolve into the sea already have a pretty good idea of what is at stake. Nor do peasants who know their local animals and plants necessarily need laboratory instruments to tell them that something is wrong. But to convince middle-class intellectuals of the world scale of the issue, it's hard to avoid falling back on supercomputer-driven general circulation models (GCMs) backed by diverse data-gathering techniques and networks that have taken over a century of painstaking climatological effort to build.¹

Yet some of the very strengths of this science are also problems. Climate modelling divides a “nonhuman” nature (CO₂ molecules, cloud albedo, methane clathrates) from a “nonnatural” society (surplus extraction, labor unions, energy policy). Climatologists study the antics of stripped-down greenhouse gas molecules as if they had no history or politics. Year by year, they build up an ever-heftier and more detailed account of actual and possible interactions among objects carefully isolated from the human world while turning their gaze away from the interactions that make climate change a complexly entangled *socionatural* process.

For example, the “climate change” process that GCMs portray is indifferent to distinctions between “subsistence CO₂” and “luxury CO₂”² or between emissions from indigenous agriculture and emissions from fossil fuel combustion. Excluding oil company politics, the disciplining of workers, or the oppression of women, the way GCMs frame climate change continually relocates causation and responsibility either to the molecular level or to the level of an imaginary overseer who might “manage” the climate machine in the way a hobbyist stands over a miniature railway set. This manager is none other than a virtuous version of the simplified *anthropos* found in the phrase “anthropogenic climate change”.

For climatologists, the bias evident in GCMs not a matter of individual choice. It derives not just from the capitalist drive to create and isolate “nonnatural” humans who can make commodities out of natures carefully construed as “nonhuman”. It is also part of the specific genealogy of climate models themselves, which can be traced back through Cold War-era cybernetics, systems analysis and computer simulations of the nonlinear fluid dynamics of nuclear explosions; World War II-era artillery-control servomechanisms; and ultimately the mechanical feedback-control “governors” required by Industrial Revolution steam engines.³

What happens when this rigorously “non-social” climate becomes dangerously unstable and somebody has to do something about it? It must be reconnected to human politics. But how? The entire modelling exercise has depended on ignoring the millions of connections linking global warming with – for example – the hegemony of fossil capitalism and the struggle against commons.⁴ Merely to put the two little objects called “subsistence CO₂” and “luxury CO₂” back in the climate equation would mean opening up climatology to negotiations about what subsistence is and what luxury is – negotiations that neither political leaders nor their scientific advisers tend to have much interest in conducting. It is as if a surgeon, after having hacked out a person's brain and spinal cord, were to try to put them back and reconnect them, neuron by neuron, to the rest of the body.

Far easier just to finesse the problem. Purify climate change into an exclusively “natural” phenomenon and you simultaneously purify humanity into a simplified “nonnatural” phenomenon unconstrained by its embeddedness in the nonhuman – something like the hobbyist with his model railway. Once the climate issue is reduced to molecules, then the obvious way to reconnect it to society is to link it to imaginary molecule controllers whose ultimate motivation can be expressed in numbers: 350 parts per million or a 1.5 C temperature increase.

Hence the phantasmic discourse of the United Nations and the “green economy”, which puts in the foreground not hundreds of millions of workers and bosses uneasily entangled with fossil-fuelled machines, or commoners and leaseholders doggedly fighting over extractivism, but rather supposedly all-powerful “world leaders”, economists and bean-counting individual consumers “discovering” carbon prices that will somehow check the accumulation of CO₂ molecules without affecting the state of class struggle at all.

What does all this have to do with justice? Every migrant that arrives in Europe or North America because she has been displaced by plantations of supposedly “carbon-neutral” agrofuels is not only a climate refugee, but also a victim of the injustice that is woven into the very fabric of mainstream climate science, which tells us that when it comes to causing or preventing catastrophe, one CO₂ molecule is equal to another. Every forest people lumbered with the responsibility of using its territory to compensate for industrial emissions that it has had no hand in creating is being oppressed by the same climatology. Every scientific argument for new ways of instrumentalizing supposedly nonhuman natures – such as geoengineering the oceans for greater carbon absorption – is as much of an insult to indigenous peoples as the colonialist takeovers of the last millennium.

Does that mean rejecting climate science wholesale? No more than recognition of the injustices inherent in every nation's legal codes means ignoring the courts, refusing to hire lawyers, or burning law schools. A world that capital is constantly trying to bifurcate between a monolithic society and a monolithic nature – and partially succeeding – is one of the worlds we occupy. For that very reason it must be one of the targets of popular struggle. To call attention to the unjust biases in climate science is not to wish yet again for an unbiased science based on a purified “nature”, but to demand a better-biased science that self-consciously recognizes its place in the evolution of more democratic *socionatures*. It is to understand that the political injustices inherent in climatology are *scientific* weaknesses. Climate activists should regard themselves not as unquestioning envoys of the latest climatology to “political leaders”, but rather as people seeking political change within climate science as well as without.

¹Paul Edwards, *A Vast Machine: Computer Models, Climate Data, and the Politics of Global Warming*, Cambridge, MA: MIT Press, 2013.

²Anil Agarwal and Sunita Narain, *Global Warming in an Unequal World*, New Delhi: Centre for Science and Environment, 1991.

³Fernando Elichirigoity, *Planet Management: Limits to Growth, Computer Simulation, and the Emergence of Global Spaces*, Evanston: Northwestern University Press, 1999; James R. Beniger, *The Control Revolution: Technological and Economic Origins of the Information Society*, Cambridge, MA: Harvard University Press, 1986.

⁴Andreas Malm, *Fossil Capital: The Rise of Steam-Power in the British Cotton Industry c. 1828-1840 and the Roots of Global Warming*, Ph.D. dissertation, Lund University, 2014.