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Rachel Carson Center for Environment and Society
Leopoldstrasse 11a, 80802 Munich, GERMANY

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Dorothea Born

Remembering Nature in Climate Change: Re-thinking Climate Science and Climate Communication through Critical Theory

Imagining Climate Change

Let's start by imagining a picture: we visualize a polar bear on an ice floe in the open sea, seemingly lost or possibly even trapped, drifting towards a precarious future. In evoking this image in your mind, I rely on the fact that it has become iconic of climate change and is now part of our popular imagination and consciousness.¹ It is also typical of a certain (and possibly dominant) way of communicating climate change, often found in popular science magazines. Such magazines occupy an interesting position within climate-change communication since they are located at the threshold between scientific journals and the mass media,² upholding an ethos of scientific accuracy and thus representing and reproducing a conception of science as the bringer of truth, reinforcing scientific authority over other forms of knowledge and expertise.³

Lynda Walsh, in this issue, rightly criticizes the unquestioned authority of science, arguing that this authority is based on science's "imbrication with global economic development" (Walsh, this issue, p. 15). According to Walsh, even attempts to include civil society in the process of knowledge production mostly serve industry and government interests. So-called Mode 3 models of knowledge production, which ultimately aim to incorporate a "quadruple helix" of government, industry, academia, and civil society, "double down on the neoliberal 'neocorporatist' logics of Mode 2" (Walsh, this issue, p. 18). Thus, Walsh argues, climate science is "the centerpiece of a powerful knowledge-production regime driven by neoliberal economic logics." She consequently proposes to "decenter science in climate change communication." While Jeroen Oomen agrees with Walsh's proposal to include the lay knowledge of local communities, he perceives a risk in questioning the "normative authority" of science, as this might open the door for all kinds of relativism and conspiracy theories, and, in the case of climate change,

1 Birgit Schneider and Thomas Nocke, eds., *Image Politics of Climate Change: Visualizations, Imaginations, Documentations* (Bielefeld: transcript 2014).

2 Sigrid Stöckel, Wiebke Lisner, and Gerlind Rüge, eds., *Das Medium Wissenschaftszeitschrift seit dem 19. Jahrhundert* (Stuttgart: Steiner, 2009).

3 Dorothea Born, "Bearing Witness? Polar Bears as Icons for Climate Change Communication in National Geographic," *Environmental Communication* (2018), Online first, <https://doi.org/10.1080/17524032.2018.1435557>

skepticism or denial. Oomen states that scientific knowledge production—“systematic inquiry”—can lead to truth and that such a truth is necessary as a “principle of ordering, a common ground upon which to meet” (Oomen, this issue, p. 29, p. 30).

In the following contribution, I argue that both these positions are simultaneously partly right and partly wrong because they express a contradiction manifest in today’s capitalist society. In my opinion, this contradiction has been aptly named and addressed by Critical Theory as put forward by Theodor W. Adorno and Max Horkheimer. While not equating science with capitalism, I hope to make clear that a critique of science also always has to be a critique of the larger system out of which it emerged and in which it is embedded. Therefore, I first want to briefly elucidate Adorno and Horkheimer’s critique of science and its entanglements with power based on their book *Dialectic of Enlightenment* and then, by way of an example, apply it to my own research on climate-change visuals in popular science magazines. Coming back to the image described above, I will show how it puts forward a particular conception of, and relationship to, science and nature. Building on insights from Adorno and Horkheimer’s critique, I further want to speculate how such conceptions could be opened up and reimagined in climate change communication.

Enlightenment’s Dialectics

Critical Theory goes back to Max Horkheimer’s programmatic essay from 1937,⁴ in which Horkheimer contrasts a “traditional theory” that does not recognize how it is part of the current economic (capitalist) system to a *Critical Theory*, which aims at showing how theory is always immersed in, and thus reproducing, a specific set of social and historical circumstances. One thus cannot simply apply the critique put forward in the 1930s and 1940s to today’s science and its relation to the capitalist system. Rather, one must always assess how theory is embedded in specific historical conditions. Yet, as the fundamental structure of society has not changed, I do believe that Adorno’s and Horkheimer’s basic arguments of how science and capitalism are entangled, as well as their proposition for how to overcome these entanglements, are still valid and worth revisiting. After all, the aim of Critical Theory was always to criticize a situation in order

4 Michael Schwandt, *Kritische Theorie* (Stuttgart: Schmetterling Verlag, 2009).

to change it. Thus, Critical Theory is not only a theory but also a practice,⁵ a thought that might be inspiring for many social scientists who also hope to achieve change through their work—as do we, writing the contributions to this issue.

Dialectic of Enlightenment, written cooperatively in exile and against the backdrop of German Fascism and anti-Semitism, is indebted to this programmatic aim of Critical Theory. On the very first page of *Dialectic of Enlightenment* Adorno and Horkheimer state: “Enlightenment, understood in the widest sense as the advance of thought, has always aimed at liberating human beings from fear and installing them as masters. Yet the wholly enlightened earth is radiant with triumphant calamity.”⁶ The authors’ intention is to investigate why enlightenment has failed to fulfill this aim to free humanity. Thus, they also make clear that they are ultimately sympathetic to enlightenment’s initial goal, but that the project of enlightenment has not delivered what it originally promised. Adorno and Horkheimer link this failure to the ways in which enlightenment tried to “break out of natural constraints (Naturzwang).”⁷ Their critique of modern science is ultimately linked to a critique of the “domination of nature,” the brutal ways through which nature was exploited and destroyed in the name of enlightenment, which makes their approach also fruitful for radical ecological thinking.⁸ Furthermore in their conceptualization of nature, Adorno and Horkheimer do not only include *external nature*—what can be referred to as “the environment”—but extend their conception of nature to humans, conceiving every individual’s fundamental needs and drives as their *inner nature*.⁹ The critique of external nature’s domination through enlightenment is thus linked to the oppression of humans, as both natures have been dominated by enlightenment: external nature through the blind exploitation of resources, and humanity’s inner nature, since every individual has to suppress their needs and wishes in order to conform to the system.

Adorno and Horkheimer’s critique is linked to a critique of the capitalist mode of production, which they perceive as opposed to human freedom. The rise of capitalism is

5 Max Horkheimer, “Traditional and Critical Theory,” in *Critical Theory: Selected Essays*, 188–243 (New York: Herder and Herder, 1972).

6 Max Horkheimer and Theodor W. Adorno, *Dialectic of Enlightenment: Philosophical Fragments*, ed. Gunzelin Schmid Noerr, trans. Edmund Jephcott (Stanford, CA: Stanford University Press, 2002), 1.

7 Steven Vogel, *Against Nature: The Concept of Nature in Critical Theory* (Albany: State University of New York Press, 1996), 55.

8 Vogel, *Against Nature*.

9 Alison Stone, “Adorno and the Disenchantment of Nature,” *Philosophy & Social Criticism* 32, no. 2 (2006): 231–53, <https://doi.org/10.1177/0191453706061094>.

ultimately connected to and entangled with the advances of enlightenment and modern science. At the beginning of modernity, direct and personal dominion was replaced with a system of abstract and impersonal rule. This abstract rule is also reflected within enlightenment and modern science, which are based on the principle of *instrumental reason*,¹⁰ where things are reduced to serving a single purpose. In order to preserve the system and produce surplus value, instrumental reason eliminates all qualities and peculiarities of things.¹¹ This applies especially to nature, which becomes a resource to be exploited or a presentation of a problem to be understood and solved by science's identifying thought: "Nature, stripped of qualities, becomes the chaotic stuff of mere classification."¹² This becomes especially visible when thinking about climate change. Even though we are quite aware of the large-scale catastrophic consequences of the exploitation of nature, instrumental reason further enhances this exploitation in order to preserve the capitalist system.

Every step aimed at delivering humanity out of the brute forces of nature has increased the domination of both external nature and human's inner nature. Therefore, "reconciliation with nature"¹³ must always mean both changing the ways we conduct ourselves towards the environment, as well as towards our own wants and needs. Thus, Critical Theory is therefore also ultimately a critique of all totalitarian systems that oppose human freedom and the fulfillment of individual needs.

Even though Adorno and Horkheimer radically criticize modern science by showing how it is ultimately entangled with capitalist modes of production, they do not suggest abolishing rational thought altogether. Rather, although enlightenment has not fulfilled its promises, they argue that it also provides the tools to finally overcome domination: critical thought. By thought becoming self-aware and reflexive of its own entanglements with power, the totalitarian tendency within enlightenment might be overcome: "For not only does the concept, as science, distance human beings from nature, but as the self-reflection of thought—which, in the form of science, remains fettered to the blind economic tendency—it enables the distance which perpetuates injustice to be measured."¹⁴ Thus, Adorno and Horkheimer do not propose decentering science but using one of

10 Max Horkheimer, *Eclipse of Reason* (New York: Oxford University Press, 1947).

11 Horkheimer and Adorno, *Dialectic of Enlightenment*, 4.

12 Horkheimer and Adorno, 6.

13 Horkheimer and Adorno, 54.

14 Horkheimer and Adorno, 32.

the main principles of science, critical thinking, to overcome the totalitarian tendencies inherent to this very science. Again, nature plays a central role here. It is through engagement with nature, through perceiving its domination, the suffering and harm done to it by humans, that this self-reflection of critical thought might be sparked. “Through this remembrance of nature within the subject, a remembrance which contains the unrecognized truth of all culture, enlightenment is opposed in principle to power.”¹⁵ As Horkheimer put it in his book *Eclipse of Reason*: “The sole way of assisting nature is to unshackle its seeming opposite, independent thought.”¹⁶ In practice, remembering “nature within the subject” and becoming aware of all the suffering done to nature through enlightenment would consequently entail also the end of capitalism. Only if we find a different mode of production that does not include the blind exploitation of natural resources to produce surplus value can nature—both external and each human’s inner nature—be reconciled.

Coming back to the seemingly contradicting positions put forward by Walsh and Oomen, I now want to make clear why, based on this critique of enlightenment, they are each both right and wrong at the same time. Walsh rightly criticizes science’s entanglements with power and the capitalist mode of production. Yet, to decenter science could lead, as Oomen rightly points out, to relativism and indifference. Thus, I do believe that rational thought and critical thinking are necessary to understand and overcome science’s entanglements with power. But, it will not do to see science as “a principle of ordering, a common ground on which to meet” (Oomen, this issue, p. 30). Rather, we need to make visible and reconsider how this ordering principle is entangled with the modes of production in contemporary societies and how these lead to a domination of both our external environments as well as our own inner dreams, needs, and drives.

Re-imaging Climate Change

Based on this short account of some aspects of Critical Theory’s critique of enlightenment, I now want to come back to the issue of climate change. What could these insights mean for the practices of climate change communication?

¹⁵ Horkheimer and Adorno, 32.

¹⁶ Max Horkheimer, *Eclipse of Reason* (New York: Oxford University Press, 1947), 89.

So let's return to the image I asked you to imagine at the very beginning of this contribution and explore what is made visible as well as invisible by this picture. The image of the polar bear may catch the viewer's attention, as the fate of the cute cuddly bear is linked to climate change. The icon of the polar bear thus allows this abstract and remote issue to be personalized and localized. Yet, the image also promotes a certain gaze. The bear itself is depicted as vulnerable and helpless, in need of human rescue. Such anthropomorphizing and romanticizing imaginations deprive the bear of agency.¹⁷ While hunting polar bears for their fur is restricted and viewed with contempt, photojournalists now hunt for polar bears' pictures. Through the practices of imaging, the polar bear is "captured" in a specific place and situation.¹⁸ Humans themselves remain absent in these pictures; they are the ones behind the camera, or in control of taking and looking at those images, while the polar bear is objectified, a surface for all kinds of human projections. Thus, the "photographic gaze" incorporates and perpetuates human domination over nature.¹⁹

What remains invisible in the image of the lone polar bear are those people living in the Arctic, whose home is already affected by the consequences of climate change. Furthermore, the icon of the polar bear does not foster an understanding of the wider circumstances and causes of climate change. It does not show how the burning of fossil fuels, and contemporary lifestyles, are linked to increasing greenhouse-gas concentrations and global surface temperatures. Nor does the image explain how this exploitation of natural resources by humans is linked to capitalist modes of production.

Coming back to Adorno's and Horkheimer's argument about science's entanglement with the capitalist system that provides the wider framework within which science is produced, I argue that climate scientists, as well as climate-change communicators, need to become aware of the circumstances in which climate(-change) knowledge is produced. A solely scientific understanding of climate change reduces nature to a physical phenomenon that can be observed and controlled by the means of the natural sciences.²⁰ This fosters a nature-culture divide, which deprives nonhuman actors of agency.

17 Donna Haraway, *How like a Leaf: An Interview with Thyra Nichols Goodeve* (New York: Routledge, 2000).

18 Donna Haraway, "Teddy Bear Patriarchy: Taxidermy in the Garden of Eden, New York City, 1908–1936," *Social Text* 11 (2000): 20–64, <https://doi.org/10.2307/466593>.

19 Born, *Bearing Witness?*

20 Julie Doyle, *Mediating Climate Change* (Burlington, VT: Ashgate, 2011).

Furthermore, communicating climate change as a solely scientific problem inhibits a wider understanding of how climate change is ultimately also a social and political issue.²¹

This brings us back to the contradiction inherent in the question of whether or not to decenter science in climate-change communication, identified in the introduction. Before it is possible to tackle this question, we need to make visible how science is ultimately entangled with capitalist modes of production and how this might restrict us from finding solutions for the issue of climate change. The domination of external nature is intrinsically linked to the domination of each human being's inner nature. So it is only by reconciling with nature that we as humans might ultimately be free. To communicate this interconnectedness is a challenge, which involves radically rethinking our self-understandings as climate scientists, climate-change communicators, and researchers of climate communication. Yet, it is a challenge we should be willing to face if we truly want to overcome the domination of human and nonhuman beings.

21 Mike Hulme, *Why We Disagree about Climate Change: Understanding Controversy, Inaction and Opportunity* (Cambridge: Cambridge University Press, 2009).

Suggested Further Reading

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