

The Anthropocene Chamber: A Pedagogic Experiment in Climate Change Communication

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Climate change is not only a crisis of the physical environment but also a predicament of the cultural environment and in turn requires a renewed media strategy to make public such planetary concern. This essay considers the role of architectural media within the context of a pedagogic experiment called *Earth on Display*. The workshop deployed design research to engage in the difficult (and necessary) quest of climate change communication in museums of science and nature. In recent years, natural history museums have introduced climate change to their programming. The scientific language of such climate exhibits remains however inaccessible to most visitors and with little impact on their affective experience or their political actions. How can climate change be imagined, spatialized, and experienced and come to matter? What are the representational worlds—the Anthropocene “cabinet of curiosities” and “wonders”—that move from abstract knowledge to material evidence to render climate change sense-able, and actionable to broader publics? The workshop, taught by the author of this essay, was conducted with the support of the Harvard Museum of Natural History and culminated in the installation of *The Chamber of the Anthropocene* temporary exhibit in the museum’s Climate Change Gallery. At once a curatorial exercise and a speculative geographic landscape, *Earth on Display* mediated climate knowledge through the aesthetic and spatial qualities of things.

Objects, cabinets, remains: here is an assembling of wonders from a damaged planet, brought together in order to cultivate the arts of remembering effectively, so as to care seriously, to care for, to care with. Each essay is a provocation to curiosity in the sense of incitement to feel, know, care, and respond.

—Donna Haraway.

CHANGE, CLIMATE, REPRESENTATION

“Climate” writes the geographer Mike Hulme—author of *Why We Disagree about Climate Change* and *Weathered: Cultures of Climate*—“is weather which has been cultured, interpreted and acted on by the imagination, through story-telling and using material technologies.”¹ The question of climate change hence

is not only a calamity of the physical environment in search of a “fix” or “solution” but also a predicament of the cultural environment and requires diverse forms of media in a renewed engagement with the environmental imagination. To do this is a commitment to experiment with new ways to represent complex environmental issues and bring them to public culture. For architectural education in particular, the need to render climate change public points to a renewed interest in representation—narratives, images, objects, experiences. From this, climate change has opened up new themes and spaces of action for architecture as a form of ethical and political engagement.

As an experiment in pedagogy, *Earth on Display* sprang from the exigencies of climate change in the architectural curriculum and in public culture. In the spring of 2017, the MIT Department of Architecture issued an open call for Experiments in Pedagogy that invited faculty to take on topics and modes of inquiry that did not fit into the current curriculum and to investigate new models, formats, and topics of learning, design and research. The *Earth on Display* proposal advanced that the specific media of designers—drawings, models, material constructs—could make climate change, so often represented as in the unimaginable abstraction of graphs and charts, feel instead visceral, intimate, and present. In particular, architectural media could leverage the symbolic power and site of natural history museums to provide affective experiences though the agency of exhibition narratives, material specimen, and large diorama drawings.

With the support of the Harvard Museum of Natural History (HMNH), *Earth on Display* designed *The Anthropocene Chamber* and installed this temporary exhibit in the Climate Change Gallery for a weekend during the museum’s revamp of their formal climate change exhibit. In response to the prevalent language of climate change exhibits, replete with digital screens that feature climate models and expert videos testimonials, the workshop privileged a strategy of material evidence and visual artifacts that gave form to what might otherwise be perceived as abstract climate matters. The diorama exhibition consisted of a series of eight large-sized drawings, each of which incorporated a museological specimen from the HMNH collection into a site drawing that made visible a specific geography and concern. The workshop also produced a design research publication,



Figure 1. Bird egg specimen at Harvard Museum of Natural History. Image credit: Author..

which, beyond the documentation of the course, brought the project to a broader audience .

In this paper, I outline the fourfold workshop methodology. The first step was to historically situate the natural history museum—its history, typology as well as its recent role in the climate change communication. The second was to construct a theoretical and operative framework on the role of aesthetic practices in making public environmental systems and planetary scales of change. Third was to identify a series of specimen from the museum’s collection and stage them within dioramas that visualize the landscape of such impacted geographies. The dioramas were then composed into the exhibition and the book in the fourth phase—the public assembly.

SITUATE: THE MUSEUM OF NATURAL HISTORY

Histories of museums and, more specifically, of museums of science and nature, generally trace their origins to the curiosity cabinets of Renaissance princes and scholars. Following the French Revolution, many previously private collections were claimed for the public, and new museums were established to give citizens ways of seeing the world. Considerable effort, therefore, was directed towards making exhibitions educative for, and legible and entertaining to the new mass public. In the introduction to his lectures, Charles Wilson Peale, a 19th century artist, naturalist, and founder of what became the Philadelphia Museum with a diverse collection of botanical, biological, and archaeological specimens, explained why natural history held such crucial importance for Americans connecting the vital educational function of a museum with the growth of the new republic and a democratic citizenry—the farmer, the merchant, and the mechanic.²

The arrival of the Anthropocene has challenged the binary conception of Nature and Culture upon which the museum had rested calling for the convergence of human, natural and geological histories.³ This also meant a renewed direction for the public educational mission of the institution. In the contemporary media landscape, perhaps the museum of natural history

could build on the intrinsic interest in Nature among visitors, even those who might not be environmentally aware or straight-out denialists, to communicate climate change. According to Hulme, museums have an important role that requires that institutions and artists work with “the idea of climate change – the matrix of ideological functions, power relations, cultural discourses and material flows that climate change reveals as both a magnifying glass and as a mirror.”⁴ Through the looking glass, the institution reckons with its complex legacies of the discipline and curation of Nature, relations that empire, industry and laboratory have instrumentalized for various ends, not least those of the “white and male supremacist monopoly capitalism, fondly named “Teddy Bear Patriarchy.”⁵

Seen in this light, the deep entanglement of natural history in the extraction of knowledge and matter might serve to best anchor the violence of the Anthropocene –often presented as exceptional and emergent– within a longer environmental history, one that remains visible and operative in museums today. The Dinosaur Wing at the American Museum of Natural History continues to bear the name of David H. Koch, co-owner of Koch Industries, among the leading polluters in the US and a major funder of climate science disinformation, who stepped down from AMNH Board of Trustees in 2016 amid criticism from climate scientists. This corporate funding has also launched a new activism against fossil fuel interests in the museum. The diorama “Will the Story of the 6th Mass Extinction Ever Include the Role of its Sponsors?” by the Natural History Museum depicts a David H. Koch Dinosaur Wing several hundred years into a dystopian future. Drawing together climate’s intricate relations of causes and effects, this cabinet urges museum directors to avoid giving cultural legitimacy to the perpetuation of the climate crisis.

The workshop engaged the potential of politics in reclaiming the museum as a terrain where a ‘common sense’ of climate change is built and its social imaginary constructed. Rather than abandoning or destroying the museums as a move towards liberation, the political theorist Chantal Mouffe proposed to



Figure 2. Egg of Passenger Pigeon. Extinct Species. Image credit: Collection of James Bond /Jacques Perrin de Brichambaut, Musee de Toulouse.

engage them “with the aim of fostering dissent and creating a multiplicity of agonistic spaces where the dominant consensus is challenged and where new modes of identification are made available.”⁶ A more enabling politics would transform the museum into agonistic spaces that foster new forms of public pedagogy on climate change.

CONSTRUCT: MAKING CLIMATE PUBLIC

Earth on Display explored the gap between the importance of the politics of representation in ecology and the narrow repertoire of emotions and sensations with which we approach these issues by drawing on the work of Bruno Latour in a first step to shift worldviews on climate change from “matters of fact” to “matters of concern” —and then ultimately to “matters of care,” as Donna Haraway and Maria Puig de la Bellacasa invite us to. For all three, this quest for a new worldview requires an experimental method for conceiving and responding to the problem of climate change in the form of political arts.

Bruno Latour proposes that climate change calls for a new worldview that counters the objectification of the Earth—and the accompanying focus on deanimate, disembodied, undisputed reason—to center a political project of representation, of what world one wants to assemble, and with what entities she wants to live.⁷ In times of turmoil, the exhibition and book *Making Things Public* (2005) was a poignant reminder of the agency of representation in bringing disputed things to the

attention of the public.⁸ For *Earth on Display*, the framework of *Making (Climate) Things Public* allowed to shift the debate away from matters of fact, i.e. positivist solutions with its associated techno-fixes —green, sustainable, LEED certified—to matters of concern that position environmental matters at the core of natural histories and futures. “A matter of concern,” Latour writes, “is what happens to a matter of fact when you add to it its whole scenography, much like you would do by shifting your attention from the stage to the whole machinery of a theatre.”⁹ In such expanded worldview, media techniques foster the ability to relate, react and make sense of climate change and assemble a provisionary public around such matters of concern.

And what forms should such representations take? What might they sound or feel like? To address that, the workshop hosted filmmaker Fabrizio Terranova for a screening and discussion of his film *Donna Haraway: Story Telling for Earthly Survival* (2016).¹⁰ The film portrait gives form to the Haraway’s theoretical and methodological SF—string figures, speculative feminism, speculative fabulation, and the building of bridges between science and fiction. How to imagine new possibilities of a world, which goes beyond the critique of existing structures (such as those of capitalist witchcraft) to engage possibilities of life in the shadow of environmental ruins? *Story Telling for Earthly Survival* reminds us that we are clusters of stories: the way we move the way we behave is linked to the kinds of stories we have been told about the world, about our relations to each other. “We need other kinds of stories,” Haraway implores as she faces the camera. Storying otherwise, in Haraway’s expression, experiments with different kinds of storytelling—bending the documentary genre by fusing the intimate everyday with the playfully surreal to produce new structures of telling and making the world.

Maria Puig de la Bellacasa, a former student of Haraway, draws on feminist ethics to rework Latour’s concept of ‘matters of concern’ into that of ‘matters of care.’¹¹ Puig de la Bellacasa’s work explicitly details three dimensions of care: affect/affection, labor/work, and ethics/politics, all of which trouble the notion of critical distance from scholarly work and bring into it attachment, obligation, and commitment.¹² Moving matters of concern to matters of care requires that we engage with their “world-making effects,” including the devalued and the unloved, and ultimately brings into the picture the “matter” of oppression and domination. To care for another, to care for a possible world, is to become affectively and ethically entangled and consequently to get politically involved in whatever ways that we can. The situated scholar can no longer rely on a disinterested gaze. Caring deeply, as Haraway suggests, “means becoming subject to the unsettling obligation of curiosity, which requires knowing more at the end of the day than at the beginning.”¹³ Such concern and curiosity is the political register of this pedagogic experiment, which aspired to new political assemblies that promote an ethics of care towards previously neglected things



Figure 3. FUKUSHIMA 2100 Specimen; by Jaya Eyzaguirre, Sebastian Kamau, Taesop Shin.

REPRESENT: POLITICAL ARTS OF CLIMATE

Science centers and nature museums have begun to produce displays on climate change and its impacts on the planet. The Carnegie Museum of Natural History has dedicated its first major in-house exhibition in four decades to the topic of the Anthropocene and welcomed the world's first Curator of the Anthropocene to the museum. The Smithsonian National Museum of Natural History has also opened its gallery on the Anthropocene in 2019 as part of a larger fossil/deep time hall. The media strategy of such exhibits, which often employs scientists to produce exhibition narratives, has mostly however channeled the language of matters of fact. Their digital screens showcase documentary or infographic videos, model-based simulations and forecasting scenarios as evidence to communicate fundamental shifts in the state and functioning of the Earth System. The abstract language of scientific expertise casts the Great Acceleration in diagrams of carbon dioxide emissions and species extinction. The resulting media landscape obscures the environmental violence of such processes and resists familiar forms of historical-geographical representation making it difficult to make sense of and relate to slow, agglomerative and multiscale processes of climate change. One root of the problem of climate change communication might be the dominance of climate models, with the implicit risk of decoupling knowledge from meaning. In such

denialist times, however, it might be important to reassert that to question the prevalence of the scientific epistemic object and the affective nature of climate data does not imply an anti-science or an anti-expertise agenda. It does recognize however the emotional and communicative gap that separates scientific facts from public knowledge and action in the search for other modes of storytelling and worldbuilding. You have encountered this already. The climate change exhibit has often less of a hold on the visitors' imagination than displays in other wings of the museum, such as for example the nineteenth century HMNH Ware Collection of Blaschka Glass Models of Plants.

The fast-paced circulation of disaster images poses another representational challenge to climate communication. Media outlets tweet and live broadcast catastrophe –fires, spills, hurricanes. Rarely however do they report on anonymous and attritional events that are indifferent to the sensation-drive technologies of the image-world. Such images cast human-induced climate change into isolated natural disasters. They describe a narrative of ecological violence, without history, that continues to abstract the effective causes and agents, implying a teleological trajectory to which all humans are equally culpable. Throughout, slow violence fails to be noticed. In his acclaimed *Slow Violence and the Environmentalism of the Poor*, Rob Nixon observes that the violence wrought by climate change takes



Figure 4. FUKUSHIMA 2100 Diorama; by Jaya Eyzaguirre, Sebastian Kamau, Taesop Shin.

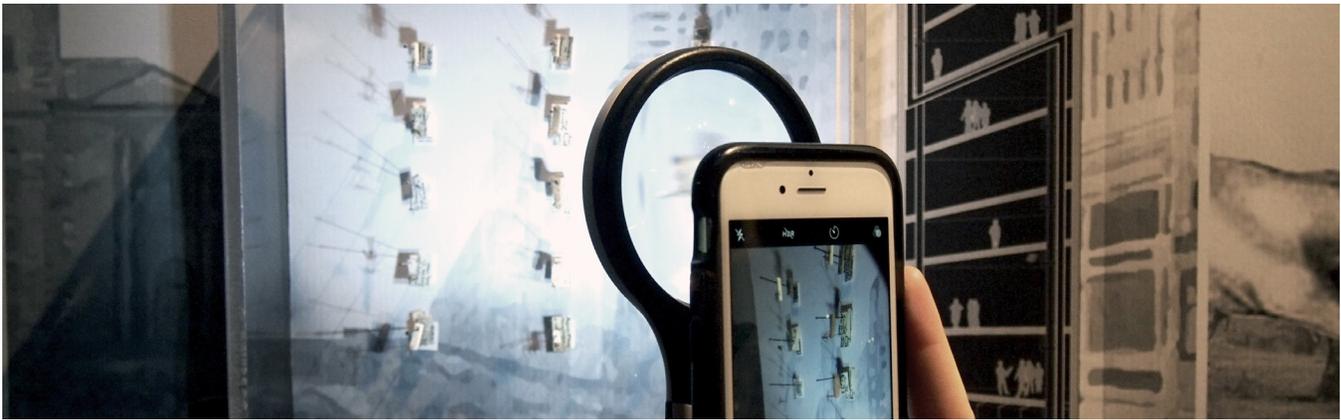


Figure 5. Mosquito Co-Evolution, by Angeline Jacques.

place gradually and often invisibly requiring different sorts of media to balance it. He adds, “How can we then convert into image and narrative the disasters that are slow moving and long in the making?”¹⁴ How can the dirt and atrocities of the archive be recast to stage many Anthropocenes?

Whereas cognitive knowledge might be the foci of discourse and scholarship, the museum by its very definition include object experiences: unique and vivid objects that can grab attention and arouse emotions. Curatorial practices have also increasingly been more willing to explore the affective attributes of climate through objects. The Deutsches Museum’s Welcome to the Anthropocene for example engaged people in thinking about the Earth’s past, present, and future through objects—like a crocheted coral reef.¹⁵ Similarly, the conference and book *Future Remains: A Cabinet of Curiosities for the Anthropocene* gathered fifteen objects—a pesticide pump, a jar full of sand, or an old calico—to offer clues to intertwined human and natural histories that shape our planetary futures.¹⁶

Earth on Display asked which aesthetic strategies could shift climate away from the epistemic authority of statistical data and the populism of disaster images and gear it towards forms of representation that couple knowledge with meaning, data with objects. A rapidly growing body of “climate aesthetics” explores this interplay between climatic knowledge and aesthetic experience. Such practices deploy a range of aesthetic formats to explore how climate evidence is made convincing in the eyes of the witnesses, often in the form of material collection such as Amy Balkin’s *A People’s Archive of Sinking and Melting*, which is a collection of materials contributed by people living in places that may disappear because of the combined physical, political, and economic impacts of climate change, primarily sea level rise, erosion, desertification, and glacial melting.

In the workshop, each student group chose a specimen from the HMNH collection across its three earth sciences museums—the Museum of Comparative Zoology, the Mineralogical & Geological Museum, and the Harvard University Herbaria.

Derived from the Latin meaning “to look,” the specimen is an illustration of something, from which the character of the whole may be inferred. Such a definition implies acts of discovering, observing and deducing, collecting and classifying, as well as drawing attention to the metonymic and synecdochic potential of the object itself.¹⁷ Materially situated and historically entangled, the specimen tells histories that make tangible nature’s contested archives. In other words, they create unique forms of material object-based storytelling.

ASSEMBLE: THE ANTHROPOCENE CHAMBER

To place the Anthropocene specimen in space, students drew a section axonometric diorama that made visible an ecological concern in a specific geography, such as sand extraction, deforestation, nuclear explosions, or shrinking seas. The term “diorama”—from Greek *dia* (through) and *horama* (to see)—was patented by Daguerre in 1822 to describe a theatrical form of visual art and later applied to natural history habitat displays. In *Earth on Display*, dioramas plot the Anthropocene; they chart a geographic representation that is populated with life forms, and narrate the many processes that tie the geographic and historic across scales.

The workshop moved beyond an emphasis on isolated specimen or species to present a more complex account of spatial relations as situated in a specific geography. In the egregious example of the disappearance of two dozen small islands in Indonesia due to black market sand mining, the diorama “Stand Extraction” rendered visible the displacement of sand to infrastructural projects, which, after water, is the most consumed resource on the planet. This installation rendered the displacement of sand visible by deploying the analogy and the artifact of the hourglass—an instrument used to measure the remainder of time through the movement of matter. Another panel from the exhibition, “Mosquito Co-Evolution” narrated the story of the most lethal animal to human race species in three acts beginning with the Trans-Atlantic Slave Trade in the 17th century, when *Aedes Aegypti*, today one of the most adaptable and widespread mosquito species, hitched a ride across the Atlantic



Figure 6. Sand Extraction, by Darle Shinsato.

and was a vector in the spread of yellow fever. A third project “Deforestation is Violence against Indigeneity” made visible the impact of multiple extractive practices –coal mining, timber logging and palm oil plantation– on the incessant deforestation in the island of Borneo, home to thousands of indigenous people, some of whom are recruited as manual, indentured laborers in the mine. The project’s installation included a 3D printed model of a contemporary indigenous hat, a replica of a hat held by the Harvard Peabody Museum, to critique how Western institutional collections renders dead living heritage in museum storages. A last example, “Fukushima 2100” took visitors on a tour of the Fukushima Prefecture through a series of specimen from the radioactive fallout into air, soil and ocean. A Safecast geiger counter, seaweed, anchovies, and emergency iodine pills charted the techno-political entanglements for life in the ruins of the Anthropocene.

The dioramas were not designed to provide a comprehensive planetary overview of all things Anthropocene, as a new Leviathan specter haunting the globe. Rather, the drawings emphasized relational approaches between fragments, in which a specific geography is entangled with the species and forces of the planet. The Anthropocene Chamber assembled the series of diorama-fragments into a total experience that was larger than the sum of the individual parts. It was an assemblage that brought partial intimacy to claims of urgent universality. “Apprehending what is significant,” notes political philosopher Jodi Dean, “may require adopting another perspective—a partial or partisan perspective, the perspective of a part...[from

which] the whole will not appear as a whole.”¹⁸ The partisan perspective of the Anthropocene Chamber opens a hole through the hegemonic culture of climate media; it is an aperture onto agonistic public spaces. In so doing, the aesthetic assemblies of Earth on Display transformed an abstract planetary model, difficult for all but the most learned to access, into a material and situated geographic matter that spoke to a multiplicity of different audiences.

The workshop publication concluded with a manifesto that served as well as précis of the learning objectives. The declaration included the statements below:

- *Critique the museum with its own institutional tools of display;
- *Acknowledge the museum’s ties with a history of exploitation and extractive sponsorships;
- *Counter abstract scale with material specimens;
- *Chart specific geographies rather than a panorama of the globe;
- *Expose long-term and slow violence;
- *Decolonize figurative representations of the subaltern;
- *Curate interpreted information to a non-expert audience;
- *Care.

The task of imaging and imagining the Anthropocene calls on a wide range of pedagogic experiments “to arouse a slightly different awareness of the problems and situations mobilizing us,” which reach beyond the barbaric scenarios that are produced at the intersection between the unfolding of climate change and the capitalist attempt to turn extreme weather events into opportunities for profit.¹⁹ In particular for architecture, the need to render climate change legible engages the discipline’s capabilities as a representational practice that is at once analytical, and material as it is critical, aesthetic, and experiential, and throughout affective and public. This paper aimed to provide an example of how an architectural design research workshop, coupled with public engagement practices, could provide opportunities to take action on climate change by connecting political ecology with aesthetic experience in the form of object-orientated democracies. Ultimately, the climate change exhibit solicited affective aesthetic strategies that called on the capacity of students and visitors to care: a political commitment that affects the way we produce knowledge and action in the world.

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