

The Deep Time Project on Climate Change

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Keywords: deep time, climate change, technosphere, planetary, global, web of life.

Effectively acting upon our most urgent crises requires a profound understanding of how to mentally inhabit the timescales at which they operate. This paper discusses the Deep Time Project on Climate Change, a new pedagogical experiment that aims to radically expand architecture's time sensibilities, set under the premise that as the geological actors that we have become, we must develop the deep time literacy demanded by the great challenge of becoming true planetary stewards. The unprecedented global challenges we are facing today demand a paradigmatic shift in time perception by which shallow (global) and deep (planetary) timescales are acknowledged as entangled and as equally integral to the human condition and to architecture as a human activity. This shift, which starts with the recognition of deep time as part of architecture, will inevitably bring about new—and urgently needed—levels of consciousness to the ways in which architecture relates to this planet. The narrower perspectives of mainstream architectural pedagogies have encapsulated the discipline within the boundaries of the global, limiting its agency to only what humans are capable of doing. The DTPoCC aims to incorporate the dimension of the planetary by which the agent of architecture expands, becoming a complex formation that involves humans and more-than-humans—from the technologies involved in the production of a building, for instance, to the geological substrate that supports it. The dimension of the planetary, situates architecture in a world of entanglements between geological, technological, human, animal, and viral bodies co-producing the environment and deeply connected to the Earth cycles.

Since the term was popularized by Nobel Laureate Paul Crutzen and biologist Eugene F. Stoermer,¹ the Anthropocene has been mostly thought of as a measure of the extent of human impact on the planet. At its core, however, the term is first and foremost a measure of time. Like other geological epochs (e.g., Paleocene, Pleistocene, or the more recent Holocene) it speaks about planetary time, but this one, unlike other geological epochs, by making reference to the “anthropos” incorporates the notion of human time simultaneously. The term “Anthropocene” collides two vastly different timescales which are hard for us to reconcile. Today, in light of the current planetary crises, it's imperative for us to do so. Indeed, in the global climate crises we are facing, short-term environmental urgencies co-exist with deep existential planetary concerns. We are forced to toggle between the timescales of the “urgent now” and the timescales of the “deep future.” As historian Dipesh Chakrabarty poignantly states, “one way to think about the current crisis of anthropogenic climate change is to think of it as a problem of mismatched temporalities.”²

The *Bureau of Linguistical Reality*—a participatory artwork focused on creating new language to better understand the new realities emerging out of climate change—defines *shadowtime* as “a parallel timescale that follows one around throughout the day-to-day experience of regular time.” Manifested as “a feeling of living in two distinctly different temporal scales simultaneously,” shadowtime, the Bureau explains, may occur for instance when “one is preparing a meal for their child and suddenly realizes that an endemic flower that had evolved over 42.7 million years has gone extinct within their child's lifetime.”³ Today, humans perform profound interventions that affect planetary deep temporal scales while holding onto inaptly shallow views of their implications in time. Shadowtime evokes those brief moments of time-consciousness when we begin to mentally integrate our human actions with the planetary timescales on which they really operate.

The challenge today is for us to take these elusive realizations that other ways of relating to time are possible and expand them to a more permanent and deeper state of knowing that removes us from the state of alienation in which we are currently immersed. As far back as the 19th century, Russian philosopher Nikolai Fedorov spoke about the need of



Figure 1. Deep Time-Shallow Time. The Global. .

overcoming human alienation. Unlike in Marx, this was not limited to *social* alienation; he talked about alienation from each other, but also from *nature* and from *time* itself.⁴ Overcoming human alienation is about restoring a sense of brotherhood and kinship but it implies, too, a necessary new relationship between humans, non-humans, and the Earth. If, as Neil Shubin suggests, “each galaxy, star, or person is the temporary owner of particles that have passed through the births and deaths of entities across vast reaches of time and space,” in deep time, the history of the human body is connected to the history of the planet.⁵

Thinking the human through the lens of deep time requires moving beyond the society/nature binary—which privileges what society does to a nature that remains “external”—adopting instead a new perspective that Jason Moore calls “*double internality*: humanity-in-nature/nature-in-humanity,” which conceives of nature as a “web of life” in which we humans take part, and of which we are therefore co-producers: “humans make environments and environments make humans.”⁶ In this way, deep time reveals nature not as a backdrop over which humans deploy their agency, but instead, nature as a whole that includes humans.

In the “web of life,” the present is not a point in a human timeline, but rather a moment in which vastly different deep and shallow time-trajectories intersect. These trajectories, which are as much part of us as part of the planet, reveal a double

human condition. If the *shallow* timelines that are crossing the present at this moment speak about the condition of humans as differentiated individuals whose conscious agency is deployed around issues of equity, race, gender, justice, production, consumption, and capital; the *deep* timescales instead reveal humans as a geological force whose collective agency has been operating unconsciously and at planetary scales of time and space, compromising the health of this planet; these deeper timescales, in ways we are now painfully familiar with, speak also about humans as a species that has come to dominate every other species on the planet and given rise to the threat of mass extinction. *Deep* and *shallow* timescales need to be considered simultaneously in order to get a complete picture. Holding only a human timescale perspective would prevent us from seeing that “the world is much older than we are, and there’s no evidence that it was created especially for us”; yet it is equally true that holding only to the deep time perspective of the Anthropocene and its meta-theory of humanity as a collective agent would prevent us from seeing issues of equity, justice, and uneven responsibility associated with climate change—where advanced industrialized nations have been the major producers of CO₂ emissions while poor and underdeveloped countries have been far more vulnerable and affected by the consequences of climate change.

The unprecedented global challenges we are facing today demand a paradigmatic shift in time perception by which these *deep* and *shallow* timescales are acknowledged as

entangled and as equally integral to the human condition. This shift, which starts with the recognition of deep time as part of human nature, will inevitably bring about new—and urgently needed—levels of consciousness to our ways of being in this planet. In 1987, author Frank White coined the term “Overview Effect” to describe the cognitive shift in awareness that results from the experience of viewing the Earth from outer space. “This experience profoundly affects space travelers’ worldviews—their perceptions of our planet, and their understanding of the future.”⁸ A complete radical integration of time would feel like a sort of “Overview Effect” achieved terrestrially, where we too, like the space travelers, are able to transform and expand our understanding of time and change our collective behavior toward each other and toward the planet.

Understanding the entanglement of these disparate timescales, means understanding climate change, both from the fine-grained historical differentiation and from a planetary deep-time consciousness. When discussing *historical time* and *deep time*, Chakrabarty refers to the Globe—a human-centric construct operating at the shallow timescales of globalization, of capitalism—and the Planet—which de-centers humans and whose timescales relate to deep time and the Earth Systems. “The Globe and the Planet—as categories standing for the two narratives of globalization and global warming—are connected.”⁹ Neglecting to see that both the Globe and the Planet are part of the “web of life,” entangled and unfolding at human and at planetary timescales simultaneously, we humans have been operating without integrity, that is, unable to integrate two fundamental sides of our own human condition. As an example, “the built”—broadly defined as the result of all the activities involved in the processes of construction and deconstruction for which humans are collectively responsible—has acquired planetary dimensions, while the structures that we have used to engender, fuel, and empower the built have never exceeded the global (i.e., the spread of human capital).

As a major player in the built, architecture needs to revisit its timeframes of perception in order to move beyond the fleeting *shadowtime* and to deeply integrate its immediate actions with the planetary timescales at which their consequences unfold. If architecture is a form of organization of matter and events/processes, considering matter and processes in light of a planetary turn will necessarily bring about new conceptions of architecture that better respond to the current reality.

This requires a space for new framings of architectural pedagogy and critical reflections on recent curricula, which are the fundamental venues for architectural thought and the foundational platforms from which architectural practice is engendered. It is from this need to review the foundations of the production of architectural knowledge that *The Deep Time Project on Climate Change*¹⁰ emerges as a new pedagogical experiment aiming to establish new methodological

frames, conceptual vocabularies, and narrative strategies. All of this is necessary to develop a new vantage point to rethink architecture’s agency in the current constellation of human and environmental crises and within the larger context of the deeper history of this planet. The narrower perspectives of mainstream architectural pedagogies have encapsulated the discipline within the boundaries of the Global, limiting its agency to only what humans are capable of doing. The *DTPoCC* aims to incorporate the dimension of the planetary by which the agent of architecture expands, becoming a complex formation that involves humans and more-than-humans—from the technologies involved in the production of a building, for instance, to the geological substrate that supports it. The dimension of the planetary, situates architecture in a world of entanglements between geological, technological, human, animal, and viral bodies co-producing the “web of life.”

This world of entanglements calls for a conversation between disciplines that brings a non-dualistic understanding of multiplicity and radical interdependency. Phenomenology has shown us the limitations of oppositional thinking which neglects the in-between space that makes relations possible. As we shift from a world of separate entities to one of interdependent processes, an “in-between,” an “intermediate” space of relations appears as a space of immense potential for experimenting with diverse areas of knowledge.¹¹

In this context, the *DTPoCC* is established as an interdisciplinary pedagogical platform of inquiry, research, and investigation, aiming to explore the creative potential of that interstitial relational space, in order to shed light on the current planetary crises, through a multidisciplinary joint effort.

One example where such an in-between area of relation manifests its interdisciplinary potential is what Saskia Sassen calls the *third space*: “a critical zone for action and intervention within the larger problem of climate change: a complex assemblage of biospheric and human capabilities that can be thought of as constituting an intermediate space that is neither fully urban nor fully of the biosphere.” Her argument is that in order to intervene in this *third space*, architects need to delegate back to the biosphere. This requires a particular kind of intermediation or bridging function which in turn “entails collaborations across diverse fields of knowledge, including biology, material science, technology, and engineering”¹² combining specialized types of knowledge that can function in an intermediate zone.

The dimension of the planetary has begun to play an important role among different disciplines and the notion of deep time that it entails is laying out the beginnings of a common ground for interdisciplinary conversations about the human, the non-human, and the planet. It is through the lens of deep time that the humanities and social sciences, while not completely decentering its principle subject, will necessarily

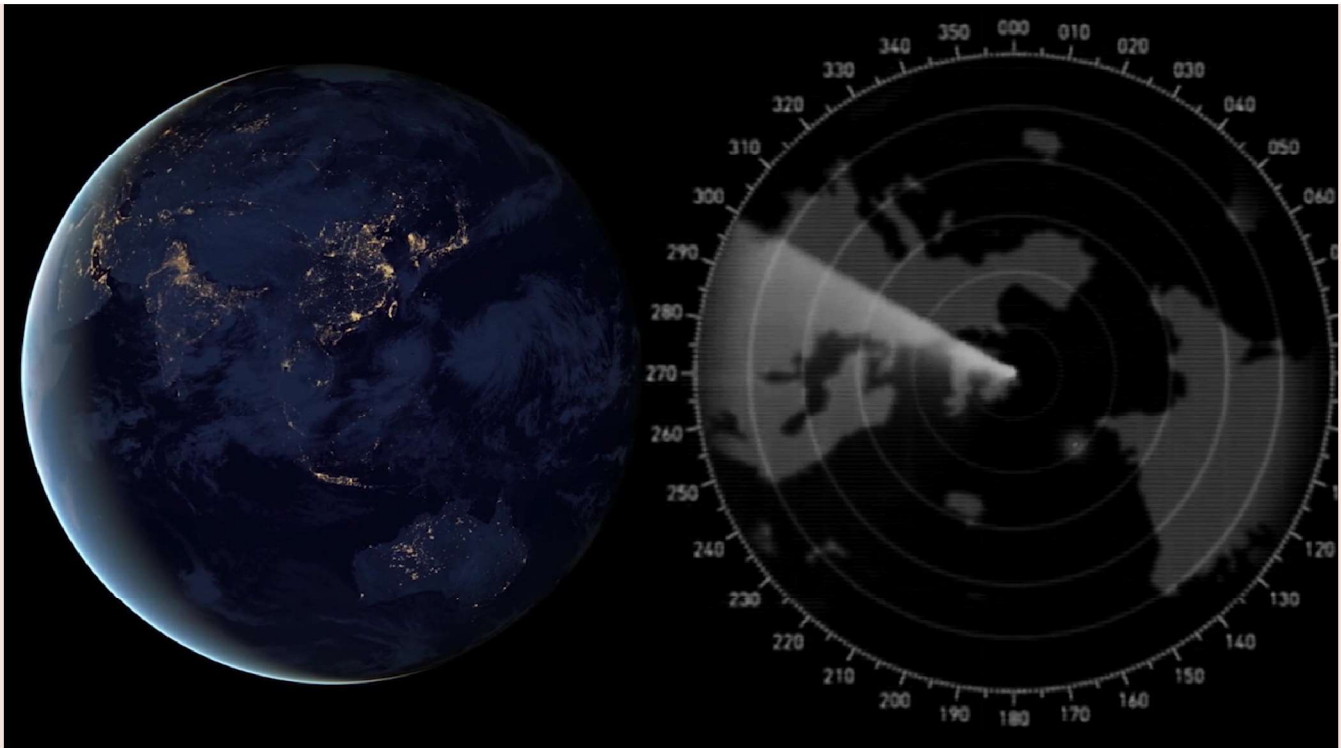


Figure 3. Deep Time-Shallow Time. The Planetary.

resituate the human in a “logic of relations” putting ethical philosophy in conversation with ecology and anthropology through lines of thought like phenomenology, materialism, and posthumanism. Indeed, it is through the lens of deep time that the multiple technologies that humans have developed to enable vast scales of extraction, transportation, manufacturing, and communication, inter alia, have become a new human planetary system that Peter Haff refers to as the “technosphere,”¹³ which has itself become a primary thread in the “web of life.” Through the *technosphere*, deep time puts into conversation disciplines like architecture—heavily involved in the technologies responsible for the planetary production of the built environment—with disciplines like those of the Earth Systems Science.

The *DTPoCC* will start as a digital platform for deep time literacy at the intersection of the humanities and sciences based at MIT. The platform will host new research on deep time, curate lecture and film series and symposia, and create deep time workshops, art projects, and architectural installations; all of which will be initiated at MIT but positioned to reach a greater global audience in the future. The *DTPoCC* aims to dissolve barriers among the five Schools and one College of the institution, creating an intellectual venue wherein true collaboration between all fields of knowledge at MIT becomes the critical tool to approaching the greatest collective challenges of our time that imperatively need us united. In this way, while rooted at MIT Architecture, the platform will cut across all

areas of expertise at MIT, capitalizing on the strong promise for radical interdisciplinary of the institution. The *DTPoCC* will be initiated as a one semester course aiming to expand our deep time literacy, demanding new ways of inhabiting and engaging the planetary.

The course will be divided in three modules that will run in parallel. *Module 1, Observation* will have an interdisciplinary lecture/mini-workshop series. Each week a pair of speakers from two different disciplines will be invited to lecture and to have a conversation with students. This part includes a curated film series plus research on deep-time project precedents with class discussions. *Module 2, Reflection* is about building a common repository of deep time terms, concepts, ideas and strategies that can help us address climate change from a planetary dimension revealing areas where the interstitial space in between disciplines presents an area of potential. *Module 3, Mobilization/Communication* will develop a series of collaborative art and architecture projects that will take the form of videos and art installations within a local environment addressing issues of climate change from long-term perspectives.

The *DTPoCC* aims to radically broaden the perceptual frame of our current climate crisis and consequently multiply the dimensions of action. It aims to sponsor a growth mindset through a broad multidisciplinary education on the long-term thinking of climate issues. The *DTPoCC* seeks to develop the tools to thinking the climate change crisis in more creative

ways by which the concept of deep time helps to redefine our relationship with the planet Earth.

At the same time, the *DTPoCC* taps into a contemporary and urgent worldwide movement that aims to address one of the biggest obstacles in addressing the climate crisis: a deeply entrenched short-termism in society which has become an existential threat to humanity and to the planet at large. Understanding that adopting longer perspectives will change the way we behave in the short term, initiatives like the Long Now Foundation in USA and the Long Time Project in the UK are emerging around the globe to remind us that we must question the timespans that determine most institutional decision making today—whether quarterly returns in business or the four- or five-year political cycles in our democracies—always in the short-term. These initiatives are set under the premise that as the geological actors that we have become, we must develop the deep-time literacy demanded by the great challenge of becoming true planetary stewards.

In *Climate of History*, Chakrabarty points out how “epochal consciousness”—an idea developed by German philosopher Karl Jaspers in the period between the two world wars of the twentieth century—has aspects that can be of special relevance as we grapple with the conundrums of the Anthropocene. On one hand, the idea was developed from a tradition of thought that takes the whole of humanity as the object of the philosophy of history at a moment of global crisis and emergency—a Nuclear Holocaust in Jasper’s time—and on the other the category of “epochal consciousness” sought to create a perspectival and ethical vantage point, a pre-position before thinking politically. As Chakrabarty concludes:

Epochal consciousness as a form of thought was supposed to have two characteristics. It was nonspecialist thought and, more importantly, it was not oriented to finding solutions. Epochal consciousness, Jaspers said, is “granted to man without giving him the rest of a conclusion.” To inhabit such consciousness “takes stamina,” for “it calls for endurance in the tensions of insolubility.” Epochal consciousness is ultimately ethical. It is about how we comport ourselves with regard to the world under contemplation in a moment of global—and now planetary—crisis.¹⁴

In light of the planetary dimension that climate change has unveiled, the *DTPoCC* aims to create a space that allow us to inhabit Jasper’s “epochal consciousness” today, and to hold “endurance in the tensions of insolubility.” A space to view architecture’s role in the current crises from a much broader vantage point generating new perspectives that can begin to steer us in the right direction. A space that, as Dona Haraway’s stories, allows “to stay with the trouble in order to nurture well-being on a damaged planet.”

ENDNOTES

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2. Dipesh Chakrabarty, *The Climate of History in a Planetary Age* (Chicago: University of Chicago Press, 2021)
3. Inspired by the Bureau of Linguistical Reality, the Reader: Shadowtime in the eFlux journal is a thematic collection of 9 essays curated by Cristina Parreno in relation to the topic of shadow time combining relevant essays across the journal from 2008 till today, <https://www.e-flux.com/readers/328117/shadow-time>.
4. In the essay “Deep timescales of Our Most Urgent Crises,” I discuss Fedorov’s ideas in relation to the role of COVID-19 in our perception of time. *Strelka Magazine*, 17 Aug. 2020. <https://strelkamag.com/en/article/deep-timescales-of-our-most-urgent-crises>
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8. Frank White, *The Over view Effect. Space Exploration and Human Evolution* (Denver: Multiverse Publishing, 1987)
9. Dipesh Chakrabarty, *The Climate of History in a Planetary Age* (Chicago: University of Chicago Press, 2021)
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11. In the essay “Tectonics of Perception,” published in the *Journal of Architectural Education*, I develop an idea about the creative potential of the exchange that takes place in the gap between worlds in its transformative capacity. Cristina Parreño Alonso (2019) *Tectonics of Perception*, *Journal of Architectural Education*, 73:1, 128-135 <https://www.tandfonline.com/doi/abs/10.1080/10464883.2019.1560828?journalCode=rjae20>
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14. Chakrabarty, 9.