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ANKER –

Anthropocene Architecture: Design Earth's *Geostories*

Marcus Vitruvius, the classical Roman architect, defined architecture in proportion to the human body—an ideal building, as he saw it, had to reflect the ideal dimensions of a man. Today such anthropocentric design, indeed male-body centered design, seems irrelevant, perhaps even irresponsible, as the magnitude of our self-inflicted environmental disasters poses fundamental challenges to architects and designers. If the human body was the correct proportion for architecture for Vitruvius, what should the scale of design be that addresses today's environmental challenges? Climatic change, species depletion, and oceanic pollution are worldwide problems. What is left of Vitruvius's ideal of human reach has stretched to new global scales and millennial time frames. How can architecture conceptualize a planet on which humans have become involved in vast geological forces?

A refreshing answer has been provided in the exhibition *Geostories: Another Architecture for the Environment*, created by Rania Ghosn and El Hadi Jazairy, which was recently on display at the Cooper Union School of Architecture in New York. Ghosn and Jazairy's work represents a turn from anthropocentric to anthropocene design. As founding partners of the Design Earth collaborative, they seek to develop a language of design that presents the

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Design Earth's exhibition *Geostories: Another Architecture for the Environment*, 2017. Courtesy of The Irwin S. Chanin School of Architecture Archive of The Cooper Union. Photograph by Lea Bertucci.

Earth so that we can understand and approach it responsibly. They ask, “How do we make sense of the Earth at the moment in which it is presented in crisis?” [1]

This question addresses a conundrum for designers today. In putting forward their own response, Ghosn and Jazairy communicate the gradual deterioration of the Earth with an eye-opening beauty that raises awareness of how urbanization and waste methods have done global damage to the environment. In their investigation of the relationships among archaeology, ecology, and urbanization across scales and times, their work explores the nature and agency of design as it engages its geographic conditions—exhibiting visionary revelations and infographics that oscillate between the utopic and the dystopic.

In their exhibition, Ghosn and Jazairy present four “geostories”: *After Oil* (2016), *Of Oil and Ice* (2017), *Pacific Aquarium* (2016), and *Trash Peaks* (2017). The viewer is invited into these stories by a set of images pasted on the gallery wall that depict events unfolding over time. Read sequentially they evoke a graphic story, though the attractive complexities of the drawings offer much more than a singular narrative, as each image has additional stories hidden within. These wall-mounted drawings are accompanied by a video projection that montages them together, along with snippets of text, and sets them to iconic pieces of music that evoke a previous generation’s science fiction, giving the viewer a sense that the geostories belong to a dream gone by. The Russian composer Eduard Artemyev’s soundtrack for Andrei Tarkovsky’s space station film *Solaris* (1972) and Kraftwerk’s “Spacelab” from *The Man Machine* (1978) provide an eerie mood, setting the stories within the optimistic futurism of the near past—a move that feels somewhat uncanny given the depiction of the environmental crisis.

The geostory in the *After Oil* series is set in the Persian Gulf and moves geographically from oil extraction in Das Island to transit logistics through the Strait of Hormuz, ending with sea-level rise in the flat and low-lying Kuwaiti Bubian Island. At the same time, the drawings move historically from the naïve optimism of natural resource exploration of the nineteenth century, through the territorial politics of the Hormuz Strait, to a dystopian reflection on the end of the petroleum era with climate change.

Most interestingly, their *After Oil* story is set in geological terms. It is worth recalling that designers and scholars in the natural sciences often think very differently about time, given the short-term-ism of architectural design processes. When geologists investigate time, they are often reaching back millions of years. When they write about current events, it usually refers to the Holocene epoch of the last twelve thousand years. In an article by the atmospheric scientist Paul Crutzen that brought the term “anthropocene” to the forefront of climate change debates, he pointed to greenhouse gas emissions that began with the industrial revolution and increased after the Second World War, which led to dramatic climatic consequences by the turn of the millennium—locating our present moment in a longer historical sweep. [2] Geologists and climatologists typically discuss such descriptions in the context of the climates of earlier medieval, ancient, and prehistoric times. Indeed, the timeline can stretch even further back, invoking biological and geological timescales all the way back to the very origin of humankind and beyond.

Ghosn and Jazairy have embraced this anthropocene turn in their

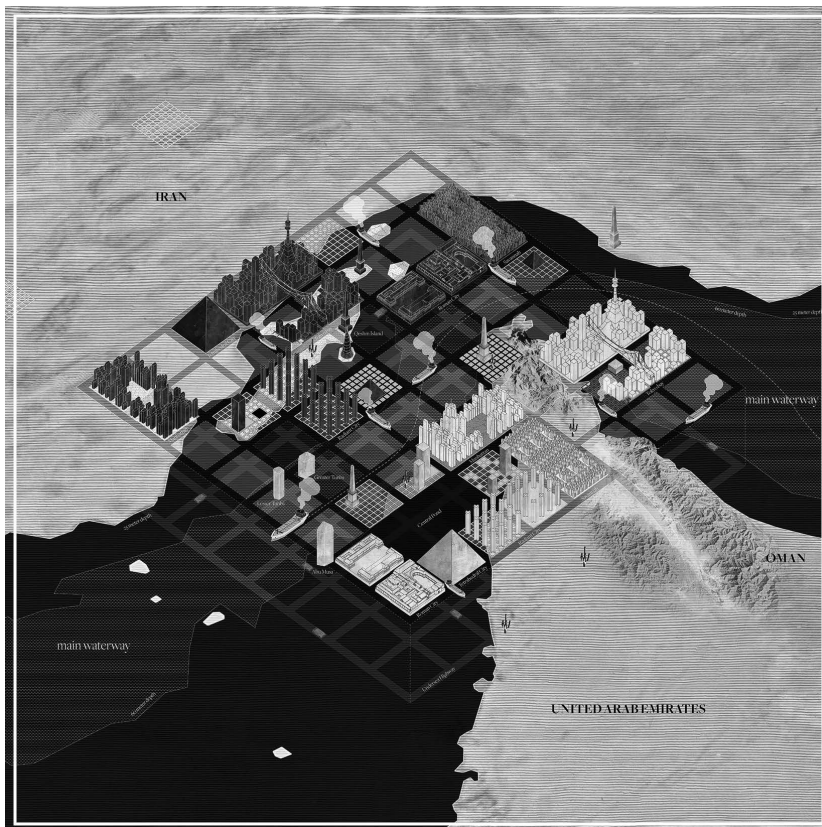
[1] Rania Ghosn and El Hadi Jazairy, *Geostories: Another Architecture for the Environment*, The Cooper Union School of Architecture, New York, October 17, 2017–December 2, 2017, [link](#).

[2] Paul J. Crutzen, “Geology of Mankind,” *Nature*, vol. 415, no. 23 (January 3, 2002).

drawings. They depict humanity as a geological force dramatically extracting oil and gas from five thousand meters below Earth's surface, found in layers created during the Jurassic Period. Upon these images they embed the human timescale and history of iconic skyscrapers powered by oil. The right side of the drawing has a timeline with milestones of architectural achievements that they juxtapose with the deep time of geological layers on the left. This layering of human, architectural, and geological timescales suggests a mismatch reflecting our exploitive relationship with the Earth. The next image shows boats taking the crude away from these violent holes in the Earth toward a distant urban landscape. These drawings do not universalize the anthropocene into some grand master narrative of oil but complicate the picture with the minute details of their drawings. They represent stories within the larger story, such as in images of cruise ships, geographic explorers, a central bank, a clock tower, a whale, and so forth. As a result, the viewer cannot pinpoint the environmental problems to one source or agent but is instead forced to reflect on the multitude and complexity of the issue.

What follows next is perhaps the exhibition's highlight, namely a grand architectural chessboard grid juxtaposed on the Strait of Hormuz, suggesting a real estate game financed by petroleum. One is invited to imagine the past, present, and future of territorial politics in a contested geographic region: a new city, a port, a crossroads, a desert, a pyramid, a Masdar City, etc., as strategic pieces in a grand political *Game of Thrones* between Iran, Oman, the United Arab Emirates, and their various political allies.

And the winter is not coming. Instead, the territorial game driven by global oil consumption is leading to oil spills and ultimately to climate change



"Strait of Hormuz Grand Chessboard," *After Oil*, 2016, in *Geostories: Another Architecture for the Environment*, 2017. Courtesy of Design Earth.

and sea rise that today is submerging Kuwaiti coastal islands. *After Oil* speculates on the future geography of the Persian Gulf, shedding light on the present embeddedness of the fossil fuel system and inviting a reconsideration of its abusive relationship with the earth. The fact that the series was originally made for the Kuwaiti Pavilion at the 2016 Venice Architecture Biennale indicates that Ghosn and Jazairy have mobilized a narrative of environmental concern that may resonate with this region of the world. That Kuwait benefits from selling oil is well known, but it is lesser commented upon that climatic change will cause problems for them as well, as in the case of sea-level rise.

The anthropocene analysis by Ghosn and Jazairy of our current architectural condition continues in *Of Oil and Ice*, made for the 2017 Sharjah Biennial in the United Arab Emirates. The series of drawings depicts a business idea that Prince Al Faisal proposed in 1976, namely that of towing icebergs from Antarctica to the Persian Gulf to provide fresh water. *Of Oil and Ice* renders visible the melting glaciers in Antarctica and the energy-intensive desalination industries of a water-thirsty Gulf. The geological meets the human timescale in the proposal of taking fifteen-thousand-year-old icebergs and repurposing their inevitable, oil-fueled melting for human consumption. The icebergs are more than an allusion to climate change. Most of their imagery is derived from architectural debates of the 1970s, starting with a Buckminster Fuller Dymaxion map put together so that it's centering the Antarctic, followed by icebergs wrapped à la Christo and dragged through the ocean, and ending with Superstudio-inspired imagery of icebergs being used to build walls and dams in the Arabian desert. It's all subversive, ironic, and playful. Through the exploratory nature of their drawings, Ghosn and Jazairy invite us to ponder the dark story of ecology and culture gone wrong. They allow us to perceive the Earth in a new way, rendering ice blocks reminiscent of the blocks in Peter Eisenman's Holocaust Memorial in Berlin and placing the Pantheon oculus underwater in a graphic gesture that signals Enlightenment turned on its head.

The *Pacific Aquarium* is Ghosn and Jazairy's third series on display at the Cooper Union, originally made for the Oslo Architecture Triennale in 2016. It takes "aim at the abysmal distance between our selfish economic worries and the great scales of the Earth," they explain. Their point of departure is unfamiliar but telling: the Clarion-Clipperton Zone in the Pacific Ocean. This is an underwater basin in the midst of the ocean in which there has been a rush to deep-sea mineral mining. What if the International Seabed Authority, they ask, used their regulatory capacities to mandate a conservation area—a sort of Pacific Aquarium to protect the seabed's flora and fauna? In the drawings that follow, Ghosn and Jazairy play with what such an absurd underwater aquarium could look like. They depict the iconic skyline of New York, with the Chrysler and Empire State Buildings floating upside down as aquariums. They also turn the Russian Constructivist Shukhov Tower upside down, its tip planted in the seabed to be used as refuge for fish and plants. The scale of these buildings, which at their time were considered extra large, becomes small in the ocean, and the idea of them being a refuge becomes a joke. Indeed, Ghosn and Jazairy have elsewhere argued for the importance of maintaining tragicomic perspective in climate debates to preserve creativity when addressing these issues. [3] They allow humor in depicting the mindless destruction of oceanic life. The play with scale is also a play on time. The buildings they depict were once icons of

[3] Rania Ghosn and El Hadi Jazairy, "Gaia Global Circus: A Climate Tragicomedy," *Climates: Architecture and the Planetary Imaginary*, ed. James Graham, Caitlin Blanchfield, Alissa Anderson, Jordan Carver, and Jacob Moore (New York and Zurich: Columbia Books on Architecture and the City and Lars Müller Publishers, 2016), 52–60.



Installation view of *Pacific Aquarium* in *Geostories: Another Architecture for the Environment*, 2017. Courtesy of The Irwin S. Chanin School of Architecture Archive of The Cooper Union. Photograph by Lea Bertucci.

human progress and hope in the future, while in Ghosn and Jazairy's drawings they become shelters for species endangered by the consequences of ruthless "progress." Species endangerment also evokes another layer of time, namely evolutionary deep time. The need for a Pacific Aquarium reflects a need to protect deep evolutionary history from short-term human thinking.

The final project, *Trash Peaks*, contributes to this apocalyptic vision of how we will live if we do not change our daily habits and building infrastructures, and builds on a previous study of trash by Ghosn and Jazairy published in 2015. [4] Made for the 2017 Seoul Biennale, they propose in *Trash Peaks* a new creative waste management system for Seoul. Their proposal's elements are as fantastic as they are improbable. The "Plastisphere recycles obsolete plastic waste into a plastidome that hovers on the top of the Changisin hilltop toy market," Ghosn and Jazairy imagine. A "spiraling tower wraps Seoul's construction waste of concrete, steel and wood around Mount Namsan." Again, they use architectural icons of human progress, such as Vladimir Tatlin's fantastic Constructivist tower to poke at architectural dreams and nightmares.

Climate change entails a deeper timeline reaching back millennia, and it involves including the agency of a nonhuman force—climate—in the analysis. Climate change, along with other nonhuman agencies such as bacteria, has shaped human belief systems, initiated political and social processes, and reshaped the human condition economically, socially, and environmentally. How does one reconcile the timescale of the scientists with time as it is understood by architects and designers? Or more generally, how can our societies adapt to climate change? The deep timeline mode of argumentation is surely challenging to historians of architecture, whose median time period of focus in their PhD dissertation is fifty-five years. [5] Can climate debates open up possibilities for rethinking the way architectural historians think about history? Should the climatologists' reconstructions of our climate history change the way we think about the human past? Perhaps the time is ripe to end "short-termism" in the field of design that still hails the anthropocentrism of human body proportions and lifespan as a metric.

[4] Rania Ghosn and El Hadi Jazairy, *Geographies of Trash* (Barcelona: Actar, 2015).

[5] Ben Schmidt, "What Years Do Historians Write About?" *Sapping Attention*, May 9, 2013, [link](#).



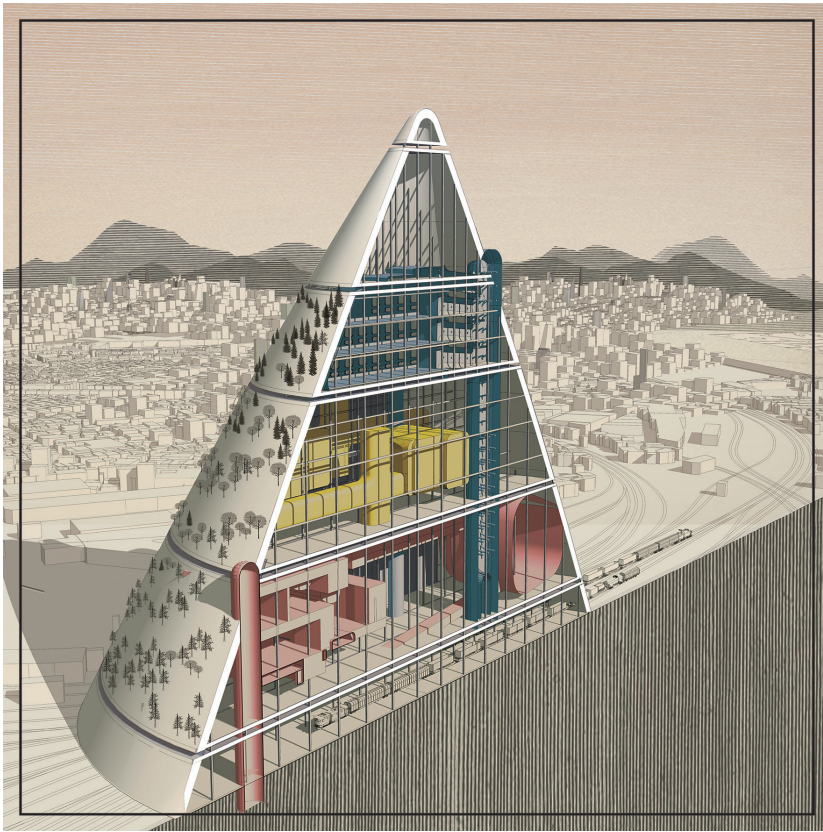
Installation view of *Trash Peaks* in *Geostories: Another Architecture for the Environment*, 2017. Courtesy of The Irwin S. Chanin School of Architecture Archive of The Cooper Union. Photograph by Lea Bertucci.

The design community has been slow in entering the climate debate, in part because scientists and architects tend to speak different languages and operate under foreign academic standards. The report from the Intergovernmental Panel on Climate Change addressing climate adaptation, for example, represented only the voices of scientists. It was based on the insights of natural scientists, with additional contributions from social scientists, mostly economists. [6] Out of 831 IPCC experts involved in writing the report, there were no designers.

Ghosn and Jazairy's geostories belong to a larger attempt by designers to take part in the IPCC conversation. They seek to bring the structures they depict to life through the use of textures and views that privilege abstract, and simultaneously visceral, representations of how one may experience a designed space. The drawings describe visionary solutions to environmental design problems, refreshingly undamped by concerns about physics or mechanics, deepening our imagination and priming us to the possibilities of future architecture and design. The series of utopic creative design remedies, including buildings that no longer exist or that never existed, illustrates how design thinking can augment the relationship between humans and their environment.

In the midst of their playfulness and cleverness, one can also ponder how helpful their design approach really is. In the last decades we have witnessed a renewed popular faith in engineers to find solutions to our environmental crises. This tendency has been highly visible in the reaction to Elon Musk's Tesla rollouts and the numerous TED Talk videos featuring star-struck audiences admiring the latest eco-gadgets that promise to solve the world's environmental problems. The success of these technologies, such as solar cells, wind turbines, geothermal systems, etc., are increasingly used in bread-and-butter architecture. It is in this techno-centric direction that the design world has been moving. The Engineer (with a capital E) is once again the hero of our times, as one has to go back to the 1960s or beyond to find a comparable public admiration for the profession. Ghosn and Jazairy are, perhaps, not taking account of this larger trend.

[6] Intergovernmental Panel on Climate Change, "Part A: Global and Sectoral Aspects. Contribution of Working Group II to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change," *Climate Change 2014: Impacts, Adaptation, and Vulnerability*, ed. Christopher B. Field, Vicente R. Barros, et al. (Cambridge, UK: Cambridge University Press, 2014).



Trash Peaks, 2017, in Geostories: Another Architecture for the Environment, 2017. Courtesy of Design Earth.

Ghosn and Jazairy intentionally draw their post-modernist architectural icons and typologies in the style of nineteenth-century geographers and naturalists such as Alexander von Humboldt. They employ representational techniques reminiscent of nineteenth-century lithography to depict structures that hark back to the agendas of Charles Moore, Aldo Rossi, Robert Venturi, and Denise Scott Brown. While Rossi's buildings resonate with memory, Venturi and Scott Brown's buildings communicate, and Moore's architecture can speak to and be enjoyed by anyone. For Ghosn and Jazairy, postmodernist-style buildings drawn in the technique of early naturalist lithographs express their ideas for an inclusive architectural style that covers an ecological agenda. Those who thought postmodernism was a thing of the past in architectural debate may, of course, see their work as a holdout from a bygone era, or a part of a recent resurgence in imagining an architecture that "communicates"—or perhaps their pastiche of historical references and reflections gain their communicative strength precisely because they reflect on ecological and climatological issues?

There are larger philosophical subtleties at stake here with respect to the role of rationality in the struggle for power. In Continental debates, the social role of engineering and science have centered on academics such as Jürgen Habermas, Michel Foucault, and Bruno Latour, with the latter two being generally critical of the ways in which rationality tends to support the power of science and a social culture of engineering. And Ghosn and Jazairy's mode of design thinking has most definitely benefited from these trends in French philosophy. Is it one thing to reflect critically upon the biopolitics (to use Foucault's term) of destructive petroleum prospecting and ocean mining but

another to apply the same critical perspective to the emerging solar or wind power industries?

The exhibition shows that environmental transformations are hard to grasp because they occur slowly over time. They affect our surroundings and in turn our cultural environments, experiences, and perceptions. Graphic renderings merged with hand drawings present a “manifesto on the environmental imagination,” Ghosn and Jazairy argue, of spaces on earth that are not always taken into account, where industrial practices run over environmental awareness. Civic design systems are broken down into fragments of attempts to understand the interwoven nature of urban cities and landscape. The exhibition reflects upon the “environmental imagination,” as discussed by Dean Hawkes and Lawrence Buell, two authors who proclaim the need to seek new ways of understanding humanity’s relation to nature. [7]

The systems illustrated in their strong graphics, such as the proposed transport of arctic icebergs across the Persian Gulf to be exploited for industrial processes, are not commonly known. Narrating these geostories through architectural drawing explores a renewed design for the public good and care for our environment. The projects expose hidden aspects of global environmental issues and landscape logistics in drawings that act as infographics.

How we think and draw climatic time matters when it comes to how we conceptualize climate adaptation, as locating the origin of a problem can be the first step toward solving it. If climate change is seen within a deeper historical framework of human adaptation to changing environmental conditions, then our current challenges may be phrased as a continuation of this trajectory. [8] Ghosn and Jazairy take the timeline of the climatologists as a point of departure in an attempt to answer the question of how humans responded to the changing climate of the past. But unlike the historical climatologists whose chief agenda is to determine past climate, Ghosn and Jazairy focus on how the past can help us imagine the future. Humans have used climate change to shape their belief systems, initiate political and social processes, and reshape and rethink the human condition economically, socially, and psychologically. [9] Human climate adaptation is intrinsically linked to social, political, and historical circumstances. Ghosn and Jazairy seek to untangle the various ways in which humans have responded to adaptation in the past.

The work of Ghosn and Jazairy reminds us that societies can change dramatically due to climate change but also that the human ability to adapt to these changes is of paramount importance for social and environmental well-being. They illustrate the multifaceted ways in which designers can engage with climate change to create possibilities for transforming our environments. Their *Geostories* are not just another but truly *Another Architecture for the Environment*.

[7] Dean Hawkes, *The Environmental Imagination: Technics and Poetics of the Architectural Environment* (London and New York: Routledge and Taylor and Francis Group, 2008); Lawrence Buell, *The Environmental Imagination: Thoreau, Nature Writing, and the Formation of American Culture* (Cambridge, MA and London, UK: The Belknap Press of Harvard University Press, 1995).

[8] Michael Schellenberger and Ted Nordhaus, eds., *Love Your Monsters: Postenvironmentalism and the Anthropocene* (Oakland, CA: Breakthrough Institute, 2011).

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