# ACSA Faculty Design Award

2016-2017 Winner Submission Materials

Pacific Aquarium

RANIA GHOSN Massachusetts Institute of Technology

EL HADI JAZAIRY University of Michigan

# PACIFIC AQUARIUM



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How do we make sense of the ocean at a moment in which it is presented in crisis? The ocean is a site of significant anthropogenic transformations. It is simultaneously the biggest resource for life on earth and a large extraction and dumping ground –of gyres of marine debris, deep sea mining plumes, and a carbon sink.

To live in an epoch shaped by extensive environmental transformations is to be confronted with risks and uncertainties at the scale of the planet. Paradoxically, we remain so little mobilized in part because of our failures to represent the scales of a story that is difficult both to tell and to hear.

Can an architecture that accounts for the sites and concerns of environmental externalities—their dimensions, forms, relations—bring the whole Earth into the domain of public concern?

First, Pacific Aquarium outlines a manifesto on the environmental imagination through the medium of the architectural project. It engages the Earth as a grand question of design making formal the unaccounted for spaces of environmental externalities Drawing on dark ecology, each of the nine projects incorporates the externalities of resource exploitation and climate change into matters of concern that weave together scales, temporalities, and species beyond the human.

Second, channeling the sense of wonder at cabinets of curiosities. the Pacific Aquarium installation appropriates the object of the aquarium to take aim at the abysmal distance between our selfish economic worries and the great scales of the Earth. Each aquarium houses a resin cast model of the architectural project along with companion fish species. Collectively, the nine aquariums reclaim the production of nature into public controversies by connecting political ecology with speculative design and collective aesthetic experience.



The Clarion-Clipperton Zone (CCZ) in the Pacific, covering an area approximately the size of Europe, has the world's largest known deposits of deep-seabed rare earth minerals. To date, the International Seabed Authority (ISA) has issued twelve exploration licenses for the CCZ and designated nine areas of particular environmental interest (APEIs).

#### CONCEPT

Rather than strictly separating the interests of mineral exploration from those of the environment, the project consolidates the nine proposed APEIs and overlays them onto the exploration concessions. Each of the resultant nine zones operates as a project that illustrates the contradictory concerns of ecology and economy within the same territory.

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#### OVERMINING

The International Seabed Authority mandates the conservation of the flora and fauna in the mining area of the Clipperton fault. A terraforming infrastructure relocates transects of substrate samples to a suspended ecological reserve. Over a decade, the infrastructure incubates a benthic ecosystem that will be grafted onto the depleted seabed.



#### **UNDER THE WATER TOWERS**

A catchment dome caps mining activities occurring on the ocean floor to contain localized sediment plume. Polluted water is separated from surrounding water and transported into a series of inverted water towers just below the surface for processing. Purified water is gradually released back to the ocean.



### MARINE LANDFILLS

Large-scale landfills capture floating waste, oil, fuel and detergents from the Pacific Gyres. Seawater cascades into a landfill to be filtered by a one-way membrane surface. When a marine landfill site is filled, the inverted pyramid is sealed and becomes a floating island in the sea.



#### **IRON TOWERS**

Suggested as solution to ocean acidification, iron fertilization stimulates photosynthesis in plankton converting dissolved carbon dioxide into carbohydrates and oxygen. The vertical tensile structure, which contains high iron concentrations of water, extends the habitat of phytoplankton to the deep ocean attracting corals and other sea creatures to the structure.



#### MEDUSA MAZE

Climate change opens a niche for the rapid proliferation of jellyfish. The submerged maze is a jellyfish Pac-Man, populated with planktons and sea turtles. The Pac-Medusa is a jellyfish husbandry for an emerging cosmetic industry. It is also a Damnatio ad bestias, an Anthropocene arena that pits the gelatinous beasts against their predators in a luminescent aquarium.



#### PARLIAMENT OF REFUGEES

The Parliament of Refugees is an assembly of Anthropocene things, such as sea turtles, plastic bags, CO3<sup>2-</sup> molecules, scallops, bleached corals, drowning wetlands, hammerhead sharks, algae, Homo sapiens, Brighamia rockii, Nihoa finch. The Assembly is organized around a hollow pillar that connects it to the center of the Earth through a submerged volcano.



#### **ROBOT FISH COLONY**

Deepsea mining produces plumes that smother near-bottom species away from their habitats. A school of cyborg fish restores such habitats by collecting the plumes into a massive spherical sponge-like nest where the toxic particles are solidified and processed into energy. The fish subsequently decompose into organic sustenance for the returning species.



#### **CLIMATE SANCTUARIES**

The submerged building tells the story of the first five submerged Pacific islands of Vanuatu, Marshalls, Fiji, Tuvalu and Kiribati through their cultural landscapes: volcanic mountains, coastlines, highlands villages, cliffs and water territories.



#### **CLASSIFIED SEDIMENTS**

An artificial landform camouflages the entrance to a sequence of vaults that extend deep into the Earth's crust to house security and intelligence records on the deep sea. This icon of secrecy dissimulates itself by mimicking the cartographic resolution of the trigonometric projection of the deep sea. The territory hides in the map.



### INSTALLATION OVERVIEW

The installation appropriates the object of the aquarium to take aim at the abysmal distance between our selfish economic worries and the great scales of the Earth. Each aquarium constructs a section of the Pacific Ocean that incorporates the externalities of resource exploitation and climate change into scales, temporalities, and species beyond the human.



INSTALLATION DETAILS [1] Medusa Maze; [2] Climate Sanctuaries, [3] Below the Water Towers, [4] Marine Landfills, [5] Iron Towers, [6] Overmining, [7] Classified Sediments, [8] Robot Fish Colony, [9] Parliament of Refugees.







INSTALLATION OVERVIEW @Oslo Architectural Triennale: After Belonging Norsk design- og arkitektursenter

## **GEOGRAPHIC LEVIATHAN**

AIR

The nine didactic projects are assembled into a new ocean creature, an exquisite corpse. Each scheme is drawn within the depth of the ocean it occupies, with the scheme below it attached, until the totality is unfolded to reveal an exquisite corpse that extends from the surface to the seabed.

The work of politics would be a matter of containing different species within the same artificial envelope. Politics is the art of cohabiting together in this immense greenhouse with species that have very different demands for survival, who demand very particular regimes of attention and techniques.

Bruno Latour, "There is no Terrestrial Globe," in *Cosmograms*, ed. Melik Ohanian (New York: Lukas and Sternberg, 2005), 216.

ATMOSPHERE

WATER SURFACE





