

AEQUOREA

Vincent Callebaut

Aequorea is one of the more recent utopic projects of the futuristic and ecologist architect Vincent Callebaut. Based on his *Archibiotic* theory (neologism between architecture, biotechnologies and TIC – French for ICT, Information and Communication Technologies), *Aequorea* is a concept of subaquatic towns designed to receive 20,000 climatic refugees each. Created by 3D architectural printers, their structures are made of algoplast (an alloy of plastic garbage and algae). One part is immersed, and thirty articulated tentacles allow it to move about and ensure its stability. They reproduce the functioning of the jellyfish called *aequorea*, in a certain mimetic spirit, and more broadly the wealth of submarine fauna and flora. The apartments' lighting is ensured by aquarium walls of bioluminescent microalgae.

Website: vincent.callebaut.org

Year of conception: 2015

Location: The five oceanic gyres and Rio de Janeiro – Brazil



CARBONIC ISLANDS

Adam Fernandez – Atelier COS

“Coup de Cœur” (favourite) of the Jacques Rougerie foundation competition in 2015, this utopic project is a floating water treatment plant designed to fight the acidity of the Arctic Ocean. Measuring over one kilometre of diameter, this island runs on renewable energy. Several pneumatic drills capture the excess carbon dioxide found in the ocean. The CO₂ is first condensed and then used as coolant in the pipes, enabling the creation of huge icebergs. Gradually, the ice pack recreates, allowing the ocean level to rebalance. Later, the CO₂ is evaporated to fuel five greenhouses present on the surface of the island. Thanks to photosynthesis, oxygen is generated and released in the atmosphere.

Website: www.ateliercos.com

Year of conception: 2016

Location: Arctic ocean



SEA TREE

Waterstudio

This prospective project created by the Waterstudio agency is designed to be located in harbour basins. This sea tree is a floating structure composed of superimposed immersed and emerged terraces. On each level, a different ecosystem evolves and offers green habitats for animals rejected from cities (birds, bees, bats...). Under the sea's surface, the tree recomposes an environment favourable to small marine creatures and, when the climate allows it, artificial coral reefs. A real modern day Noah's Ark, this growth catalyser of fauna and flora is inaccessible to man. The cities of New York and Singapore are seriously considering installing some.

Website: www.waterstudio.nl

Year of conception: 2012

Location: Offshore urban territories



LAGOS WATER COMMUNITIES

Kunle Adeyemi – Agence NLE

Lagos, the megalopolis in full economic mutation, is the most populated city in Africa. Located on Lagos' extremely polluted lagoon, the ancient fishing village of Makoko has gradually turned into a shanty town. Around 300,000 people live in dwellings on precarious stilts, exposed to considerable rise in water. In 2012, the Dutch-Nigerian agency NLE imagined a new model of development for Makoko. They designed a triangular architectural module of 220m² usable surface, floating thanks to 256 recycled barrels. A prototype, built in 2013, housed a school of around 80 pupils. In 2016, a few days after receiving the silver Lion from the 15th Venice Architecture Biennale, the school collapsed under torrential rainfall. According to some media, pillages could have caused the structure to be weakened. NLE suggests a new, more stable and robust prototype. Destined to be duplicated to include housing, the module will be equipped with solar panels and an inflatable compressor system to protect inhabitants in the event of rising water.

Website: www.nleworks.com

Year of conception: 2012 / ongoing

Location: Nigeria – Lagos

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