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Built on Water

Lisa Baker

Floating Architecture + Design

BRAUN



The vision of living on water has recently become a professional focus among architects and urban planners. Climatic change, the rise of the sea level, and the constantly increasing global population are issues that render treating water surfaces as settlement areas as topical as never before.

Built on Water introduces innovative projects that include a wide range of building types based on very different approaches to handling water as the base for buildings – whether as floating or fixed constructions, as new buildings or for reusing existing structures. The different ways of dealing with water as an architectural element, turns this volume into a source of inspiration and comprehensive compendium of the visionary concepts for a future on and with water.

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PREFACE

Living on the water has always been one of humanity's brightest dreams and visions. The 1922 reconstruction of the lake dwellings in Unteruhldingen on the Lake of Constance (Germany) are proof that people lived on the water as far back as the Stone and Bronze Ages. This way of life was relatively well protected from attacks from animals or enemies. Furthermore, such houses also made it possible to fish from home. However, the oldest and most famous prehistoric stilt dwellings were just built on boggy ground, on the banks of lakes and not in deep flowing water. This way of living appeared in cultures all over the globe. Pictures of Amsterdam and Venice in particular, or individual constructions such as West Pier in Brighton by Eugenius Birch (1866) or Vito Acconci's "Murinsel" in Graz (2002), demonstrate just how much architecture both on and in water spurred on architectural development.

However, fear of the water is just as deeply ingrained and intercultural as love of water: Genesis, the Gilgamesh Epic and the Atrahasis Epic all speak of a universal flood capable of wiping out the human race. An arc offered a safe place of retreat from life-threatening floods and this age-old fear is also played out in numerous Hollywood films. The construction of Noah's Arc is detailed in the bible and is therefore a much-used motif in Christian art. Usually, numerous craftsmen are depicted aiding Noah with the construction. The smallest documented measurements result in a box-shaped construction six stories high and with exterior measurements of 135 x 22.5 x 13.5 meters. This looks more like a raft with a barn perched on top of it – as seen on Michelangelo's ceiling in the Sistine Chapel – than

a real boat. Noah wasn't required to steer, just to float, so the addition of a hull was unnecessary. This raft was the same length as 1.3 football pitches, or put another way, it was roughly half as long as the Titanic.

The chance that the entire planet will flood is of course extremely small, but catastrophic floods have always presented humanity and architecture with an immense challenge: floods in Asia are reported on the news almost every year, but catastrophic flooding in The Netherlands in 1953 – the water rose 5.25 meters above its normal level – really goes to show that rising water levels can also pose a threat to Europe.

The myth of Atlantis – the city that sank into the sea – is somewhere between the two poles of fascination and fear. According to Plato, the City of Atlantis was located on the other side of the Pillars of Hercules, or the Strait of Gibraltar, on an island in the Atlantic Ocean and sank in around 9600 BC after a natural catastrophe. However, other ancient authors doubt the hypothesis that this nation ever existed. The "Sixth Continent" is a reappearing motif in art and culture, for example in Pierre Benoit's novel *L'Atlantide* in 1919, in the works of J. R. R. Tolkien or Joseph Beuys, or in the Marvel comics. Life under water is also an attractive alternative for some architects, inspired by, for example, the Nautilus by Jules Verne. The underwater city Futurama II, sponsored by General Motors, was on display at the World Fair in New York in 1964. Just like the company's first Futurama for the World Fair in 1939 by Norman Bel Geddes, this was also envisaged as an option for the near future – although

even now it remains an utopia. On the other hand, living on the water is a reality in many places: The Chao-Le, "sea people" from Thailand live in stilt dwellings, houseboat owners live in houseboats on the Amsterdam canals. In Amsterdam living in a houseboat on the canals has been legal since 1652 – although it has always been a point of contention whether these can still be classed as boats or whether they should be considered immobile buildings. Houseboats are no longer required to be able to propel themselves forwards, but they must be able to be towed to other waters at any time (at least in theory). This is a limiting factor in the construction of many bridges. The idea of living on water is becoming increasingly popular in many other locations. The International Architecture Exhibition in Hamburg also focused on this subject from 2007–2013, using the motto "Designs for Future Metropolises", even building one of the main buildings on water. Numerous cities enjoy swimming and bathing facilities that float on the water, an idea that has been around since the 19th and early 20th centuries, although only a few of these have been maintained (Vlatava-Bad in Prague by Josef Ondrej Kranner, 1840; Inselbad Stuttgart by Paul Bonatz & Scholer, 1927).

Floating constructions are beginning to take on a whole new dimension: hotels, cinemas, cultural institutions, offices, even a racetrack are all presented in this volume, next to individual water villas and entire residential estates. Such constructions always raise the questions of how they float: is it supported by pillars on the ground, is it raised on stilts or does it float on a pontoon. A range of innovative techniques is used – from recycled floats to concrete pontoons.





Created and designed by PAD studio and artist Stephen Turner, the Exbury Egg was inspired by the nesting seabirds on the shore. It was built locally, by boat builder Paul Baker, as a cold-molded cedar plywood sheathed structure and the artist will track the aging process. Local Douglas fir was used for the supporting ribs and internal framing; continuing the age-old tradition of timber marine construction, which can be traced back many centuries on the Beaulieu River. The intent of the project was to explore the creation of a minimal impact live/work structure, using materials with a low embodied energy sourced within a twenty-mile radius, and put together by a team of local craftsmen using centuries old techniques.

STEPHEN TURNER'S EXBURY EGG HAMPSHIRE, UNITED KINGDOM

Architects: PAD studio

Location: Beaulieu River, Hampshire, United Kingdom

Completion: 2013

Client: Space Placemaking and Urban Design

Gross floor area: 22 sqm

Function: living

Built on water: floats on recycled plastic buoyancy tanks filled with water



