



BREATHE, LOOK, STAND UP

THE TEARS OF THE U.S.S. ARIZONA

THE EDGE CONDITION

BACK TO THE FUTURE

THE OYSTER BLOCKS PROJECT

THE HAMMAM OF ERBIL CITADEL

(re)MADE BY WATER

T-HOUSE

THE BLUE LINE

ENVIRONMENTAL IDENTITY

A METROPOLITAN PARK OF WATER

BETWEEN RESILIENCY AND ADAPTATION

WATER AS MEDIUM



EDITORIAL

THE SECOND LIFE OF WATER INFRASTRUCTURE
Lindsay Winstead

A TOMB THAT LIVES
Alexander Ford and Nicholas Gervasi

RE-USE OF INDUSTRIAL HERITAGE ON URBAN WATERFRONTS
Graeme Evans and Naomi House

THE SPATIAL DIMENSION OF WATER MANAGEMENT
Kees Lokman

SUBAQUEOUS INTERVENTIONS FOR NON-HUMANS
Michael Leighton Beaman

A CONFLUENCE OF PAST, PRESENT, AND FUTURE
Ahmed Abbas and Karen Lens

OBSCOLESCENCE, URBAN NOMADISM AND THE NEW WORLD MALL, BANGKOK
Gergory Marinic

WATER AS MEDIUM IN INTERVENTIONS AND ADAPTIVE REUSE
Katherine Bambrick and Brian Ambroziak

REUSING TRADITIONAL RURAL WATER MANAGEMENT SYSTEMS
Francesco Garofalo

THE SÃO PAULO RIVERS CASE
Anne Schraiber

Renzo Lecardane and Paola La Scala

Catherine Joseph

ADAPTING WATER TOWERS
Inge Donné and Bie Plevoets

Int | AR

WATER AS CATALYST

Volume

08



BIRKHAUSER

WATER AS CATALYST

Int | AR

Interventions

Adaptive Reuse

Vol. 08

Int | AR

www.intar-journal.risd.edu
www.birkhauser.com



Department of Interior Architecture, Rhode Island School of Design

Int | **AR**
Interventions | Adaptive Reuse

Editors In Chief:

Markus Berger

Liliane Wong

Graphic Design Editor:

Ernesto Aparicio

Int|AR is an annual publication by the editors in chief: Markus Berger + Liliane Wong, and the Department of Interior Architecture, Rhode Island School of Design.

Members of the Advisory Board:

- Heinrich Hermann, Adjunct Faculty, RISD; Head of the Advisory Board, Co-Founder of Int|AR
- Uta Hassler, Chair of Historic Building Research and Conservation, ETH Zurich.
- Brian Kernaghan, Professor Emeritus of Interior Architecture, RISD
- Niklaus Kohler, Professor Emeritus, Karlsruhe Institute of Technology.
- Dietrich Neumann, Royce Family Professor for the History of Modern Architecture and Urban Studies at Brown University.
- Theodore H M Prudon, Professor of Historic Preservation, Columbia University; President of Docomomo USA.
- August Sarnitz, Professor, Akademie der Bildenden Künste, Wien.
- Friedrich St. Florian, Professor Emeritus of Architecture, RISD.
- Wilfried Wang, O'Neil Ford Centennial Professor in Architecture, University of Texas, Austin; Hoidn Wang Partner, Berlin.

Layout + Design Coordination_Cara Buzzell, Sungkyu Yang

Editorial + Communications Assistant_Toban Shadlyn

Cover Design_Ernesto Aparicio, Cara Buzzell

Cover Photo_Browning Cottage, Matunuck, RI_Aerial Photograph by John Supancic

Inner Cover Photos_Markus Berger, Jeremy Wolin

Support Team_Iris Kuo

Copyediting_Amy Doyle, Clara Halston, Jeremy Wolin

Printed by SYL, Barcelona

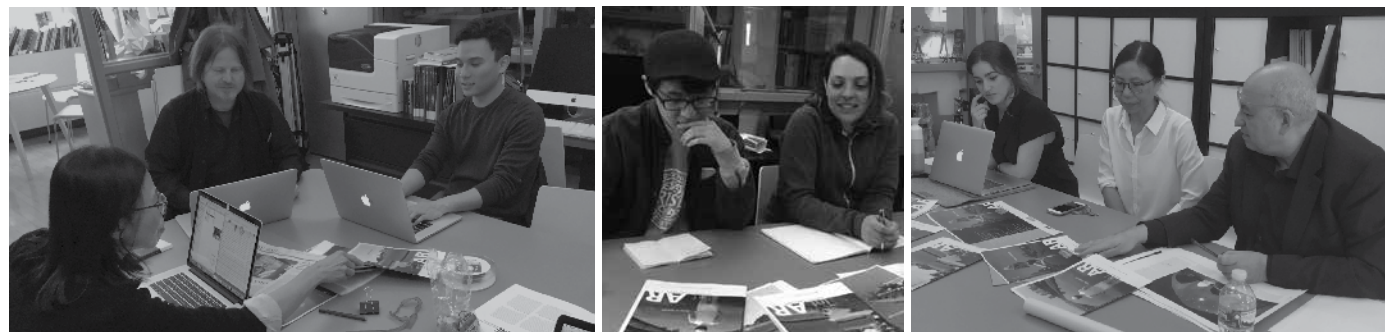
Distributed by Birkauser Verlag GmbH, Basel P.O. Box 44, 4009 Basel, Switzerland,

Part of Walter de Gruyter GmbH, Berlin/Boston

Int|AR Journal welcomes responses to articles in this issue and submissions of essays or projects for publication in future issues. All submitted materials are subject to editorial review. Please address feedback, inquiries, and other material to the Editors, Int|AR Journal, Department of Interior Architecture, Rhode Island School of Design, Two College Street, Providence, RI 02903 www.intar-journal.edu, email: INTARjournal@risd.edu

CONTENTS

	04	EDITORIAL
BREATHE, LOOK, STAND UP	08	THE SECOND LIFE OF WATER INFRASTRUCTURE Lindsay Winstead
THE TEARS OF THE U.S.S. ARIZONA	20	A TOMB THAT LIVES Alexander Ford and Nicholas Gervasi
THE EDGE CONDITION	26	RE-USE OF INDUSTRIAL HERITAGE ON URBAN WATERFRONTS Graeme Evans and Naomi House
BACK TO THE FUTURE	34	THE SPATIAL DIMENSION OF WATER MANAGEMENT Kees Lokman
THE OYSTER BLOCKS PROJECT	44	SUBAQUEOUS INTERVENTIONS FOR NON-HUMANS Michael Leighton Beaman
THE HAMMAM OF ERBIL CITADEL	50	A CONFLUENCE OF PAST, PRESENT, AND FUTURE Ahmed Abbas and Karen Lens
(re)MADE BY WATER	56	OBSOLESCENCE, URBAN NOMADISM AND THE NEW WORLD MALL, BANGKOK Gergory Marinic
T-HOUSE	64	WATER AS MEDIUM IN INTERVENTIONS AND ADAPTIVE REUSE Katherine Bambrick and Brian Ambroziak
THE BLUE LINE	72	REUSING TRADITIONAL RURAL WATER MANAGEMENT SYSTEMS Francesco Garofalo
ENVIRONMENTAL IDENTITY	76	THE SÃO PAULO RIVERS CASE Anne Schraiber
A METROPOLITAN PARK OF WATER	82	Renzo Lecardane and Paola La Scala
BETWEEN RESILIENCY AND ADAPTATION	88	Catherine Joseph
WATER AS MEDIUM	96	ADAPTING WATER TOWERS Inge Donné and Bie Plevoets



PROJECTING CHANGE

FROM NEWPORT TO SÃO PAULO BY WAY OF VENICE

by LILIANE WONG

5th century B.C. Greek philosopher Empedocles posited a world composed of a combination of fire, earth, air, and water. Half a century later, Plato, in his dialogue *Timaeus*, termed these as elements and associated them with forms now referred to as the Platonic solids. Fire was associated with the tetrahedron, earth with the cube, air with the octahedron, and water with the twenty-sided icosahedron. Ostensibly, these volumetric associations related to identifying traits of each element; the sharp points of the tetrahedron conjuring the heat of fire, the cloddish quality of the cube to clumps of earth and the smoothness of the many-sided icosahedron to spherical drops of water. From sustenance to survival, inspiration, memory and power, the many aspects of and about water justify its designation as the Platonic solid with the greatest number of faces.

In Volume 08, our contributing authors corroborate Plato's multifaceted depiction and provide a complex picture of this element as a catalyst for design and adaptation. Through adaptive reuse, the temporal nature of infrastructure/structures of and about water is revealed as they are brought forward in time with renewed purpose, or, in the case of Erbil, Iraq, returned in time to resuscitate an important socio-cultural function. Memory and memorial of water-related events past reveal distant histories of the United States through the properties of water in its many states and its comingling with other substances. Outside the U.S., water is portrayed as a catalyst for urban development in Spain, agro-tourism for Albania and a trigger for environmental policy in Brazil. The life within the waters, too, inspire new perspectives; reinterpreted oyster habitats in the Chesapeake Bay and an unanticipated appropriation of space for today's coterie of *flâneurs* in the koi filled waters of Bangkok.

In this post-Paris Agreement era, many of our authors focus on water's role in climate change. They remind us of the force of nature and the strength of water

as elements to be contended with in the environment. In recognition that this is not a novel problem, recollections of water management in history not only resurrect exemplary water strategies — from the *chinampas* of Mexico to hydrographic basins in the American West — but also remind us that design has served and can continue to serve as a catalyst for political ideology. On the other hand, acknowledging the immensity of water as power, one author ponders a unique approach for the future in which we accept mortality and design for failure.

Our authors and their representation of the many faces of water in this issue of *Int|AR* speak to a changing world in which water plays a pivotal role. In the Department of Interior Architecture at RISD, where the focus is on the practice of adaptive reuse, we also look to understanding the changing face of reusing existing structures at the water's edge. Thanks to the generosity of the van Beuren Charitable Foundation and the Newport Restoration Foundation, graduate students of our post-professional Master of Arts (MA) in Adaptive Reuse program are focusing this spring on the changing face of heritage in Newport, RI. In this 378-year old city on the water are embodied many issues of American historic buildings and cities today, including the impact of sea level rise. With 39% of the U.S. population living on the water's edge, this is of particular relevance at Easton's Point, a 17th century settlement along the western shoreline. While this area has historically experienced extreme storms, high tides and storm surge, the National Oceanic and Atmospheric Administration (NOAA) model adopted in 2016 by the RI Coastal Resources Management Council predicts 1 foot of sea level rise by 2035. For this historic community, built on grade, the possibility of inundation is far from remote.

This year's cohort of MA graduate students will undertake to 'project change', literally and figuratively, onto Easton's Point. Co-taught by Markus Berger,

Michael Grugl and me, the project addresses Bridge Street in the Point Neighborhood and extends the work begun in the *Keeping 74 Bridge Street Above Water* project of our co-sponsor, Newport Restoration Foundation (NRF). Where NRF's project focused on immediate and tangible solutions for a single historic house combating sea level rise in the next decade, the RISD project, *Projecting Change*, instead focuses on raising public awareness of the effects of sea level rise on cultural heritage.

The students are conducting their investigations on issues of preservation in historic neighborhoods seriously threatened by rising sea water levels through the use of new data acquisition technology, together with state of the art visualization and processing technology such as Augmented Reality (AR) and Virtual Reality (VR). The objective in using these digital tools with virtual building models is to engage a general public, at times skeptical and inured to the dangers of climate change for waterfront heritage. The visualization of these objectives through Mixed Reality tools will allow for the creation of an immersive and interactive built environment that enables the public to 'see,' in situ, the physical effects of rising sea levels on a threatened area of Easton's Point. Through a mobile device, the citizen will experience a neighborhood transformed in the future through proposed, virtual design interventions.

Embracing the impermanence enabled by such technology, the studio endeavors to intervene on the heritage of Newport, without encroaching upon its authenticity. Through a projection of temporary imagery directly onto buildings, this project aims to pose questions of the not-too-distant future of such heritage. One can 'try on' an inundated Bridge Street in 2035 with the luxury of retreating to the Bridge Street of today. For a heritage-laden Newport threatened by sea level rise, realization, and perhaps even a call to action, may eventually come with exposure to small glimpses of the future. These glimpses will perhaps convince the public that design interventions to heritage are no longer simply part of a privileged conversation but, rather, a new and urgent discussion that will push the boundaries of preservation and adaptive reuse. On May 26, we will host an event on Bridge Street in which Google Cardboard viewers and mixed reality markers will offer five glimpses into the possible future of this historic community. The projects — Walking on Water, Grey-Green-Blue, Memory Trace, Up-Struct and The Game — provide views of Bridge Street in a future in which water is catalyst. They offer new interpretations of what it means to "protect, accommodate, retreat." We offer the same augmented reality opportunity for our readers, with directions on the following page.

My colleagues and I had the opportunity to present the work of this studio in New Orleans, Louisiana, at the 3D Digital Documentation conference of the U.S. Dept.

of the Interior. In this vibrant city, more than a decade after devastation by water, we spoke with members of the architectural firm of Waggoner and Ball who spearheaded the multi-layered efforts for "living with water," post-Katrina. While they have worked tirelessly since 2005, there is only now talk of the implementation of the schemes arising from their work. This inertia is evident in Governor John Bel Edwards' April 19th official declaration of a state of emergency for Louisiana's coastal land loss, "a move he hopes will expedite a host of restoration projects mired in federal permitting. In his declaration, the governor said that "The Louisiana coast is in a state of crisis that demands immediate and urgent action to avert further damage to one of our most vital resources." While many now engage in designing for the effects of water, the implications of the long time efforts of Waggoner and Ball speak to the need for not only design but collaboration, economic initiatives, community engagement, education and, most of all, endurance.

Late one afternoon we drove away from New Orleans through inundated landscapes of semi-submerged trees to Venice, marked simply by a sign that read, "you have reached the southernmost point in Louisiana." The last community down the Mississippi River that is accessible by car, Venice (population of 200+ inhabitants) was entirely destroyed by Katrina but has since rebuilt itself as a floating community on buoyant foundations as well as buildings elevated high up above the water's reach. We delighted in the visible evidence of resilience, borne of water as catalyst.

Today, in a world shifting beneath our feet, the need for positive adaptation is not exclusive. Through *Int|AR* — the RISD studio and this publication on adaptive reuse — we embrace these challenges through projecting our hopes for change.

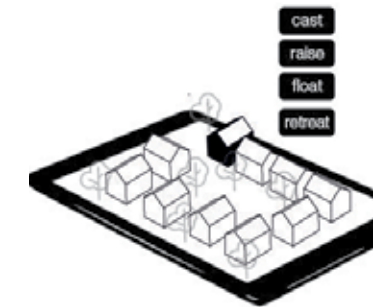
Providence
Spring 2017

ENDNOTES:

- 1 <http://oceanservice.noaa.gov/facts/population.html>
- 2 Louisiana's Governor Declares State Of Emergency Over Disappearing Coastline," National Public Radio, April 20, 2017



The five projects, herein, of the RISD Master of Arts in Adaptive Reuse students offer uniquely different views for an historic community threatened by sea level rise in the next 75 years. These projects were shared with the Newport community in an augmented reality event in May 2017. The students have created virtual and augmented reality experiences for this edition of the Int|AR Journal on Water as Catalyst. To learn more about the project 'Projecting Change' and to access and activate this experience on your mobile device, please go to <http://www.vbcf-risd.com>



COMING
SUMMER 2017

Project Change Proposals: (from top to bottom)
Walking on Water, Grey-Green-Blue, Memory Trace, Up-Struct, The Game

A METROPOLITAN PARK OF WATER

by RENZO LECARDANE & PAOLA LA SCALA

For three decades now, numerous urban renewal projects have been focused on European cities built on rivers, demonstrating how an interpretation of the urban and peri-urban areas is related to issues of high-quality ecological development and environmental sustainability. This connection places the majority of large projects involving river cities among new environmental practices, usually linked to big events, which are seen as tools for transforming the region and the image of the host city. In this context, fluvial cities are becoming increasingly aware of the natural environment which shapes the identity of the place and which demands ordinary and extra-ordinary renewal projects¹.

This paper, in pursuing two themes, aims to grasp the multiple inflections of the ambitious project of the Spanish city of Saragossa, which, in 2008, hosted the *International Expo*², integrating it into a strategy geared towards transformation of the river basin area: the river basin as object of study and the urban project for the event. The case-study chosen is emblematic of these two phenomena, especially as regards the position of Saragossa at the crossroads of four Spanish cities (Madrid, Barcelona, Bilbao and Valencia), which has helped advance its development since the beginning of the 1980s. Furthermore, the subsequent decade, from 1990 to the early years of the 21st century, signalled a step forward for the city and the river valley of the Ebro, with the arrival of the High-Speed railway and the selection of Saragossa as candidate to host the 2008 International Exhibition.

The actual description of the event may well seem ephemeral by nature, but is permanent as regards the durability of the transformations, and sums up the contribution of the Saragossa Expo to the regeneration of the region. *Expo*, on the theme of *Water and Sustainable Development*, was designed to last and then to

capitalize in the long term, and provided ample evidence of the skills that can be put to the test on occasions such as these. These events, in fact, not only permitted the city to show itself off as a whole, but also enabled it to confront its own physical dimension and that of the surrounding region, with environmental, social and cultural values added to the mix. Consequently, Saragossa suggested holding an Expo on the left bank of the River Ebro; the chief virtue of choosing this area lay in the opportunity to work on different levels of intervention, in the area's relationship with the river and other water courses and in the construction of a system of linear parks in the urban environment. Connected to the city, visually and physically, via new road-bridges and foot-bridges high above the water, the river-bank connected thematic squares and the *Water Park* to an ambitious global project combining green spaces with areas for recreational activity.

Not only did this project resurrect a recreational area, but it also became a bustling hive of activity in the large urban park. Agricultural working of the land was supplanted by operations on a grand scale, in order to resurrect, on the one hand, a vast area of marshy terrain and, on the other, to refurbish and enhance the eco-systems on the river-banks. The water-courses flowing through the city became natural and cultural elements of the new axes shaping the *Metropolitan Water Park* project, which represents the principal element in linking up the city's new processes of natural and urban redevelopment. The Saragossa Expo, by respecting the global phenomenon of great cultural events, incarnated the reciprocal relationship between the event (which aimed to transform the areas of water) and its resources, which this very region enhanced with a view to refurbishing its identity. The theme and its message, as chosen by the city, along with consideration





of environmental and urban resources, fuelled the theme of recycling of urban material, renaturation of embankments and the more complex theme of renovating the city.

The sustainable event as a developmental strategy

Referring to the contribution of the Great Exhibitions³ in cities that have hosted them, allows one to insert Saragossa in the broadest national and international context, which, since 1888, has seen Spain among the nations most involved in organizing these cultural events of great import. The Universal, International and Regional Exhibitions organized in Spain were aimed almost exclusively at local people and heralded a search for an architectural style and local trends in the hosting cities. In this context, the Saragossa International Exhibition of 2008, as reported by the *Consortium Zaragoza Expo 2008*⁸, developed a strategy in support of both the *Expo Integrated Plan* and actions to enhance the water-courses.

The planned operations, such as the construction of new railway stations capable of accommodating the new high-speed trains, all the new tertiary, technological and commercial areas and the modernization of basic infrastructure (including the international airport, navigable stretches on the River Ebro and the redevelopment of the *Canal Impérial*) were all duly completed; consequently, Saragossa contributed effectively to reinforcing its geographical centrality, both on the regional and national scales, and establishing modernization principles to improve the quality and quantity of public transport infrastructure and boosting the city's economy.

The challenge faced by the city, therefore, consisted in consolidating its regional role. This was based on its clear ambition to re-establish its centrality through innovative urban operations of national significance and with respect for the environment. These lines of thinking were

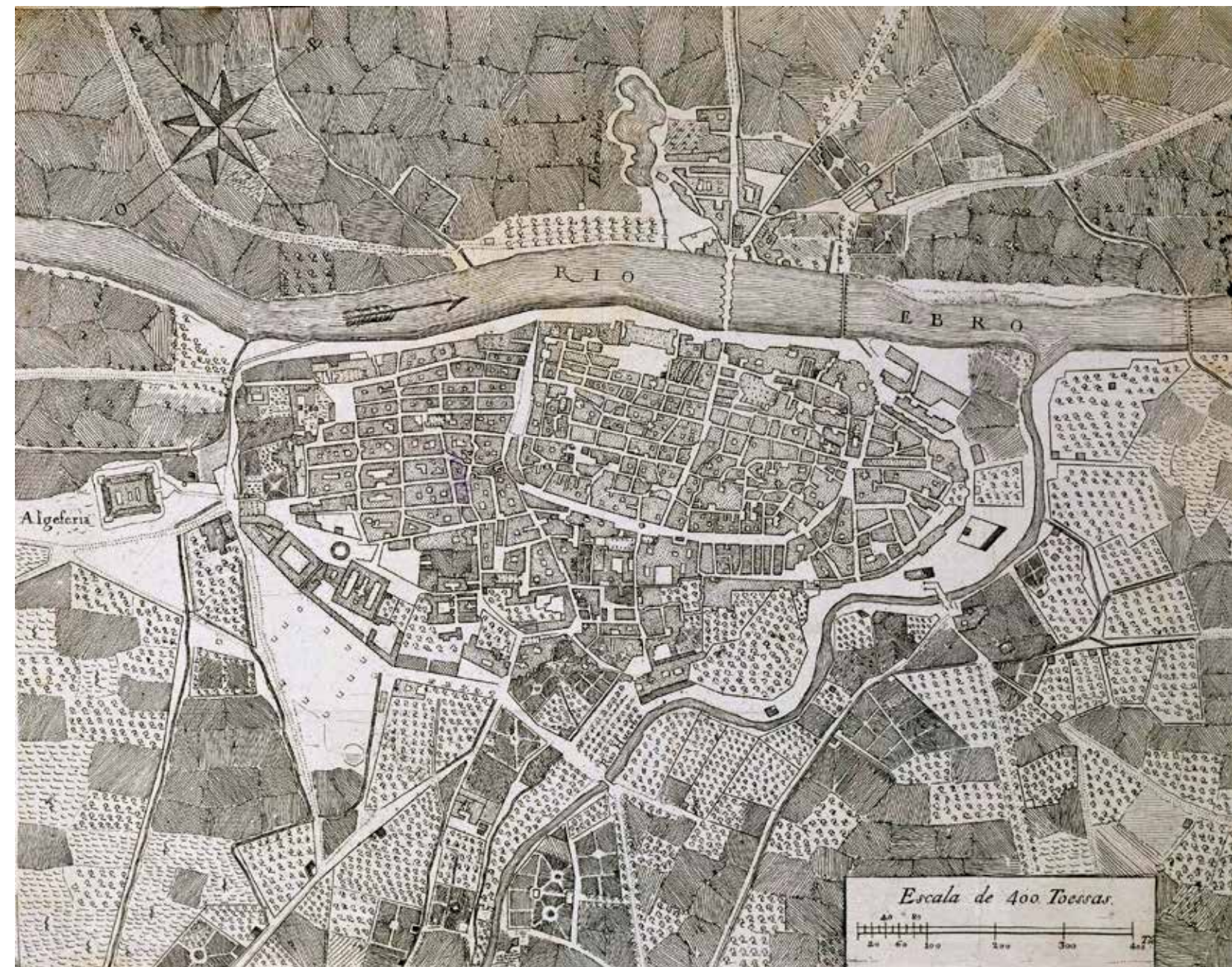
supported by the strategic choice to address environmental development in harmony with urbanization along the river-banks and the river-valley of the Ebro. The backbone of the system of water-courses and the spontaneous vegetation along the Ebro, the various tributaries Gállego, Huerva and the *Canal Impérial* with the two large parks of Valdespartera and Arcosur, did, in fact, form a still visible natural system, which countered the occupation of land by the recent urban sprawl. Further to this resistance, interest emerged in redeveloping the riverside and linking it up with the International Exhibition project over the vast marshy area of *Meandro di Ranillas*, west of Saragossa.

The urban project

The Saragossa *Expo* entered the annals of great Exhibitions and became a key tool for future transformations of the city, capable of generating structural changes that had been almost impossible to implement using ordinary planning tools. As a result of its geographical location, not far from the city centre and the new intermodal railway station, Expo represented the new structural centre of a larger project of urban regeneration (Blasco 2008)⁴.

In line with the importance attached to the event's impact and legacy, Saragossa proposed that Expo become the pivotal element in the mosaic of operations envisaged for the city's natural and urban environment over the following decades. In fact, Expo mobilized extraordinary national, regional and municipal resources. Aragon's government committed itself to building the cultural and linking infrastructure, such as the Congress Centre, the Goya Space and improvements in the metropolitan and road networks. The government of Aragon and the Aragonese community also participated jointly in the environmental projects, to redevelop the embankments, the countryside and the nature reserve of Alfranca. The city of Saragossa purchased the 25 hectares of the *Recinto of Expo*, building new structures for the event, new access-points with linking road-bridges and foot-bridges over the river.

Once the hypothesis of creating a theme park had been abandoned (Masad, Guerrero Yeste 2008), the environmental predisposition and the water theme shaped the city's objectives and the eventual choice of Saragossa as the site of the Expo, based on an ambitious environmental project along the banks of the Ebro. The *Water Park* project by the landscape architect Christine Dalnoky was included in the programming, which envisaged the laying down of guide-lines for Expo and post-Expo[5]; in fact, this was a fragment of a large-scale urban operation geared towards consolidating the city's relationship with the river through the creation of an eco-system of green spaces linked up and included in natural surroundings. The traditional



idea of the Park was here associated with open spaces destined to become a promenade connecting the green spaces with the areas for recreational activity. It was to be not only a place for relaxation and fun, but, above all, an *ecological park, a specific life-space and not an anecdotal park* (Dalnoky 2008), a concentration of leisure-time activities for urban society, in a place characterized by a large green space accommodating, within its borders, numerous areas for leisure-activities.

The vast Expo site today occupies about 145 hectares of the agricultural land of the *Meandro di Ranillas*;

inside this, there is the *Recinto*, extending over 25 hectares, designed by the architects Enric Batlle and Joan Roig. It opens out on to the Ebro and joins up with the right bank of the river via road-bridges, foot-bridges and the Pavilion-Bridge, the main access-point to the *Recinto*, designed by Zaha Hadid. Inside it, there are many buildings by architects of international renown: the International Pavilions by Azcárate y Banbó, the Spanish Pavilion by Francisco Magnado, the Aragon Pavilion by Olano y Mendo, the Congress Centre by Nieto y Sobejano, the Thematic Squares by Batlle y Royg, the



View of the Water Tower, Expo 2008

Expo Building by Basilio Tobías, the River Aquarium by Planchuelo y Coutant, the Water Tower by Enrique de Teresa, the Water-city Pavilion by Italo Rota, the Digital Pavilion by Carlo Ratti; the Funicular Railway by Hualde y Ramos and many more thematic constructions dotting the Water Park in the immense *Meandro di Ranillas*. All Pavilions are designed as flexible and multifunctional space where multi-sensorial, audiovisual and interactive exhibitions lead the spectators through an experience narrating the importance of water and its different uses in countries culture and history. We might also add the area of the Water Park to all these emblematic Expo buildings and it becomes evident that the contribution of the actual event, with all the political, economic and financial machinery set in motion, constituted the driving force for developing the city's riverside area, projecting in the direction of a vast environmental transformation plan.

Furthermore, in the wake of the construction of the *AVE-Delicias* railway station, numerous emblematic operations were carried out in urban and extra-urban settings, in service of certain specific themes. The issue of public space and its central role in the city was tackled in the redevelopment plan for the railway zone of *El Portillo*, approved in 2005, which envisaged the future construction of new residential buildings, services for both the city and the neighbourhood (offices, exhibition hall, auditorium and multi-media library), on the fringes of this area, as well as an outlying railway station. Then there was the theme of sustainability and innovation in support of the economy of the new Saragossa, which was tackled in planning the innovative and digital locality *Milla Digital*, in an open area on the River Ebro, between the areas of *Delicias* and *El Portillo*.

Fresh perspectives: towards 2020

The project described thus far was the challenge that Saragossa accepted via large-scale urban operations, in accordance with its environmental qualities, in an attempt to eradicate several blemishes on the urban picture; in this way, it inverted the previous radio-centric trend characterizing the city's outward expansion from the historical centre, in the years of the population explosion.

The events following the recent economic crisis, which hit Spain hard, put a stop to the dream of a short-term urban transformation and its anticipated, associated development. The present situation takes much of the blame for the difficulty in putting into operation the proposed post-Expo ideas, a plan which had been conceived before the event and implemented during it. However, it can be seen that the city has, nonetheless, shown that it has gained insight from the previous experiences of Spanish cities hosting similar events; consequently, it worked out a strategy of long-term interventions, geared towards activating virtuous

processes of urban development. Moreover, in spite of the crisis, Expo did not represent an isolated event for the city. On the contrary, it constituted the beginning of a process of regeneration that rendered the relationship between the river and urban development mandatory, representing the first step in subsequent transformations.

Including the post-Expo period in its timeline, the 2006 Strategic Plan was proposed as the driving force behind the city's development up to 2010; it was to individuate a system of indicators to verify whether the pre-set aims had been achieved, so as to refine the planned strategy in accordance with the results obtained. Some positive data did emerge, being amassed during a series of checks immediately after Expo 2008, but contrary to general assumptions at the time, it appears that the economic crisis had a negative effect on both the socio-economic issues and those regarding urban transformation, which, hitherto, had not seemed to cause any anxiety. Precisely as a result of these observations, a new strategic document (*Estrategia 2020*) was prepared in 2011, with the duty of supervising the development of the city and the metropolitan area for a decade, and with a long-term thirty-year perspective, laying down some priority objectives: *integrating* nature in the city and in its area of influence, *improving* the air-quality, *bolstering* the development of clean technology, *adopting* operational systems for handling waste disposal, *improving* the water-quality and *reducing* its consumption.

ENDNOTES:

- 1 Cfr. R. Lecardane, "Fleuve en ville. Infrastructure touristiques à L'Expo 2008 Saragosse", *L'Infraville / Futurs des infrastructures*, (2011), 242-251
- 2 The International Exposition in Zaragoza proposal took shape and reached its official recognition during the municipal elections of 1999, through the electoral promises of Juan Alberto Belloch, Mayor candidate.
- 3 Entity responsible for coordination of all public administrations involved in the Expo. Cfr. *Bollettino Expoagua 2009*.
- 4 The definition of the different areas of the *Recinto* was built starting from the candidature project, presented in December 2004, which also included the successive reuse of the sites in a cultural and scientific park.
- 5 The Expo guideline assumed the integration of the river with the city in an irreversible manner following the principle of diffuse growth of cities along its fluvial margins. To this it added flexible planning, before and after the event, all the urban renewal operations, based on the principle of double temporality, launching a process of conversion of building in view of future works. The *Association for Strategic Development of Zaragoza (Ebrópolis)*, responsible for elaborating the Expo guideline approved two strategic plans for Zaragoza, the first in 1998 and second in 2006.

PROJECT CREDITS, INFORMATION AND BIBLIOGRAPHIES

EDITORIAL

Project Name_ Projecting Change

Image Credits: Neethi Abraham, Angelica Carvahales, Udeeta Jain, Mengran Jiang, Vinoti Kabara, Krishna Lingutla, Sneha Mathreja, Hana Mehta, Gloria Ramirez, Eshank Rishi, Eder Romero, Yinghua Tan, Rohit Vantaram, Ananya Vij, Plub Warnitchai, Mengyue Zhou

BREATHE, LOOK, STAND UP

Project Name 01_ DC ExchangeProject_Site_ McMillan Slow Sand Filtration site_ Location_ Washington DC_ New use 01_ Community center, marketplace, performance_ Project Name 02_ People's Liberation Army No. 1102_ Location_ Shenyang China_ Original architect_ Communist Party China_ Rehabilitation architect_ META-Project_ New use 02_ Exhibition space, mini theatre

Image Credits_ Figure 01,02, 08_ McMillan slow sand filtration site, Washington, DC, Lewis Francis; Figure 03 –07_ Public Folly, Shenyang, China, META-Project; Figure 09_ Courtesy of Lindsay Winstead

BIBLIOGRAPHY:

- Burian, S., J. Stephan Nix, Robert E. Pitt, S. Rocky Durrans. "Urban Wastewater Management in the United States: Past, Present, and Future." *Journal of Urban Technology* 7, no. 3 (2010): 33 – 62, <https://dx.doi.org/10.1080%2F713684134>.
- Cartwright, M. "Aqueduct — Definition." *Ancient History Encyclopedia*. 2012. <http://www.ancient.eu/aqueduct/> (accessed September 5, 2016).
- EHT Tracerics, Inc. "*McMillan Slow Sand Filtration Plant*." Historic Preservation Report for the Proposed Redevelopment of the McMillan Slow Sand Filtration Plant. 2010.
- Greenberg, S. *Invisible New York: The Hidden Infrastructure of the City*. London: The Johns Hopkins Press Ltd. 1998.
- Harper, D. "Infrastructure." *Online Etymology Dictionary*. <http://dictionary.reference.com/browse/infrastructure> (accessed January 10, 2014).
- Hobsbawm, E. *The Age of Revolution: Europe 1789-1848*. United Kingdom: Weidenfeld & Nicolson Ltd. Vintage Books, 1962.
- Jacobsen, T., and L. Seton. *Sennacherib's Aqueduct at Jerwan*. University of Chicago Press: Oriental Institute Publication. 1935.
- META-Project. "Public Folly — Water Tower Renovation PR Text." Dongcheng District, Beijing: August 5, 2013. September 3, 2016.
- META-Project. "Water Tower Renovation — Industrial Heritage Reuse." December 2012. <http://www.meta-project.org/projectdetail?projectQueryCon.id=47&select=2,1> (accessed September 3, 2016).
- Metcalf, L.; Harrison P. Eddy. "*American Sewerage Practice*." New York: McGraw-Hill. Vol. I, Design of Sewers, 1914.
- "Public Folly — Water Tower Renovation / META – Project." *ArchDaily*. August 20, 2013. <http://www.archdaily.com/417034/public-folly-water-tower-renovation-meta-project/> (accessed September 3, 2016).
- "Reference Terms — Infrastructure." *ScienceDaily*, 2006. <https://www.sciencedaily.com/terms/infrastructure.htm>.
- Rodda, J. C. and Lucio Ubertini. "The Basis of Civilization — Water Science?" International Association of Hydrological Sciences, 2004.

- Staley, Cady; George S. Pierson. *The Separate System of Sewerage, Its Theory and Construction*. New York: D. Van Nostrand Co. 1891.

THE TEARS OF THE U.S.S. ARIZONA

Project Name_ A tomb that lives; Location_ Pearl Harbor, Hawaii

Image Credits_ Figure 01_ View of USS ARIZONA taken from Manhattan Bridge on the East River in New York City on its way back from sea trials. December 25, 1916, Library of Congress Prints and Photographs Division Washington, D.C. 20540 USA http://hdl.loc.gov/loc.pnp/pp.print;photographer_EnriqueMuller,Jr./E.Muller;1916;Wikimedia; Figure 02_ A TOMB THAT LIVES Monument proposal, illustration by author; Figure 03_ An aerial view of the USS Arizona Memorial, U.S. Navy photo by Photographer's Mate 3rd Class Jayme Pastoric, Wikimedia

BIBLIOGRAPHY:

- Henderson, S. "Submerged Cultural Resources Study, USS Arizona Memorial and Pearl Harbor National Historic Landmark". Santa Fe, NM: Submerged Cultural Resources Unit.
- Shapiro, T. "Arizona Memorial Seen as a Dedication to Peace." *Honolulu Star Bulletin*. May, 2002. Southwest Cultural Resources Center. 1989. "Section IV: Biofouling and Corrosion Study."
- Stille, M., and A. Hook. *Yamamoto Isoroku: Leadership, Strategy, Conflict*. Oxford: Osprey. 2012.
- Stillwell, P. *Battleship Arizona: An Illustrated History*. Annapolis, MD. Naval Institute. 1991.
- The National World War Two Museum, New Orleans. "The D-Day Invasions in the Pacific". December 2001. <http://www.nationalww2museum.org>
- U.S.S. Arizona Preservation Project 2004, "Baseline Environmental Data Collection." http://128.146.17.149/previous-programs/Arizona/Legacy_2.html (accessed 10 December, 2016).

THE EDGE OF CONDITION

Project Name 01_ Three Mills_ Bromley-by-Bow_ River Lee_ London, England_ Project Name 02_ The White Building_ Lee Navigation Canal_ Hackney Wick_ Stratford, England_ Project Name 03_ The Marine Engine House_ Walthamstow Reservoirs

Image Credits_ All images courtesy of the authors; Figure 01, 02_ Three Mills Island, London_ Figure 03_ White Building_ Hackney Centre Wick_ Stratford_ Figure 04_ The Sinking Future Post Apocalyptic Flood Survival Centre.

BIBLIOGRAPHY:

- Bluestone, Daniel. "Challenges for Heritage Conservation and the role of Research on Values" In *Values and Heritage Conservation*, ed. Erica Avrami, Randall Mason, Marta de la Torre. Los Angeles: The Getty Conservation Institute, 2000.
- Evans, Graeme. "The Lee Valley: an industrial river system and heritage landscape". In *Patrimoine Paesaggi : Costruiti Dall'acqua*, ed. Margherita Vanore, 90 –101. Milano: Mim Edizioni Srl-Udine, 2016.
- Foucault, Michael. "Of Other Spaces: Utopias and Heterotopias," *Architecture, Mouvement, Continuité*. 5, 1984, 46 – 49.
- Hollis, Ed. *The Secret Lives of Buildings: From the Parthenon to the Vegas Strip in Thirteen Stories*. London: Portobello Books, 2010.
- Knight, Jasper. "Development of Palimpsest Landscapes", 2012, <http://serc.carleton.edu/68942>, (accessed December 16, 2016.)
- Lewis, Jim. *London's Lee Valley: Britain's Best Kept Secret*. Chichester: Phillimore & Co, 1999.
- Machado, Rodolfo. "Toward a Theory of Remodelling — Old Buildings as Palimpsest." *Progressive Architecture*. 11, no. 76, (1976): 48.
- Marshall, R. *Waterfronts in Post-Industrial Cities*. London: Spon, 2001.
- Norberg-Schulz, Christian. *Genius Loci: Towards a Phenomenology of*

Architecture. New York: Rizzoli, 1985.

- Norberg-Schulz, Christian. "The phenomenon of place." In *Theorizing a new agenda for architecture: an anthology of architectural theory 1965 – 1995*. ed. Kate Nesbitt. New York: Princeton Architectural Press, 1996.
- Pallasmaa, Juhani. *The Eyes of the Skin*. Chichester: J.Wiley & Sons, 1996.
- Solà-Morales, I de. "Terrain Vague." In *Anyplace*. ed. Cynthia C. Davidson. 118 –123. Cambridge: MIT Press, 1995.
- Strong, Brian. "A tidal mill tale." *Journal of the Islington Archaeology & History Society* 4, no. 1 (2014): 16 –17.
- Symmons Roberts, Michael & Paul Farley. *Edgelands*. London: Vintage, 2012.
- TICCIH (The International Committee for the Conservation of the Industrial Heritage), *Industrial Heritage Re-tooled: The TICCIH guide to Industrial Heritage Conservation*. James Douet (ed.) Lancaster: Carnegie. 2012. 236.
- Weizman, Eyal. *Forensic Architecture: Notes from Fields and Forums*. Kassel: Documenta. Series 062.

BACK TO THE FUTURE

Image Credits_ Figure 01_ The Big U, Courtesy of Bjarke Ingels Group; Figure 02, 03, 05) by Julia Casol; Figure 04_ Courtesy of H+N+S Landscape Architects; Figure 06_ Dijkdoorbraak bij Bommel, 1799, Christiaan Josi, naar Jacob Cats (1741 – 1799), 1802, source: Rijksmuseum, Amsterdam

BIBLIOGRAPHY:

- de Vries, J. "The Netherlands and the polder model: Questioning the polder model concept." *BMGN — the Low Countries Historical Review* 129, no. 1 (2014): 99 –111.
- Dutch Water Authorities. 2015. *Water Governance: The Dutch Water Authority Model*. URL: <http://www.dutchwaterauthorities.com/wp-content/uploads/2015/05/Water-Governance-The-Dutch-Water-Authority-Model1.pdf> (accessed August 30, 2016).
- Gunn, C. "Acequias as Commons: Lessons for a Post-Capitalist World." *Review of Radical Political Economics* 48, no. 1 (2016): 81 – 9.
- Lewis, M. E., and Craig L. Torbenson. "Cultural Antecedents of J. W. Powell's Arid Lands Report." *Journal of Geography* 89, no. 2 (1990): 74 – 80.
- Lokman, Kees. "Dam[ned] landscapes: Envisioning fluid geographies." *Journal of Architectural Education* 70, no. 1 (2016a): 6 –12.
- Lokman, K. "Exploring a New Paradigm: Water management in Mexico City." *Topos: European Landscape Magazine*, no. 96 (2016b): 44 – 50.
- Lokman, K. "Progressive Pragmatism: The Next Generation of Dutch Landscape Design Practices." *Proceedings of the Cracow Landscape Conference*, (2016c): 19 – 28. http://www.clc.edu.pl/wp-content/uploads/2016/09/VOL_1_CLC2016.pdf
- Merlín-Uribe, Yair, et al. "Environmental and Socio-Economic Sustainability of Chinampas (Raised Beds) in Xochimilco, Mexico City." *International Journal of Agricultural Sustainability* 11, no. 3, (2013): 216.
- Parsons, J. R. "Political implications of prehispanic chinampas agriculture in the Valley of Mexico." In H.R. Harvey (ed.) *Land and politics in the Valley of Mexico. A two thousand year perspective*. Albuquerque: University of New Mexico Press, 1991.
- Powell, J. W. *Report on the lands of the arid region of the United States: With a more detailed account of the lands of Utah with maps*. Washington, DC: Government Printing Office, 1878.

- Raheem, N. "A Common-Pool Resource Experiment in Acequia Communities." *International Journal Of The Commons* 9, no. 1 (2015): 306 – 321.
- Raheem, Nejem. "A common-pool resource experiment in acequia communities." *International Journal of the Commons* 9 (1) (2015): 306 – 21.
- Salewski, C. *Dutch new worlds: Scenarios in physical planning and design in the Netherlands, 1970 – 2000*. Rotterdam: 010 Publishers, 2012.
- Sanders, William T., Robert S. Santley, and Jeffrey R. Parsons. *The Basin of Mexico: The Ecological Processes in the Evolution of a Civilization*. New York: Academic Press, 1979.
- Santistevan, M. "Acequia Culture and the Regional Food System." Coyote Gulch. URL: <https://coyotegulch.blog/2016/10/16/acequia-culture-and-the-regional-food-system-miguel-santistevan/> (accessed November 15, 2016).
- Schmidt, J.J., and D. Shrubsole. "Modern Water Ethics: Implications for Shared Governance." *Environmental Values*, vol. 22, no. 3 (2013): 359 – 379.
- Torres-Lima, P., B. Canabal-Cristiani, and G. Burela-Rueda. "Urban Sustainable Agriculture: The Paradox of the Chinampa System in Mexico City." *Agriculture and Human Values* 11, no. 1 (1994): 37 – 46.
- van Tielhof, M. "Forced Solidarity: Maintenance of Coastal Defences Along the North Sea Coast in the Early Modern Period." *Environment and History* 21, no. 3 (2015): 319 – 350.
- Worster, D. "A River Running West: Reflections on John Wesley Powell." *Journal of Cultural Geography* 26, no. 2 (2009): 113 –126.
- Zevenbergen, Chris, et al. "Taming Global Flood Disasters. Lessons Learned from Dutch Experience." *Natural Hazards* 65, no. 3 (2013): 1217 – 1225.

THE OYSTER BLOCKS PROJECT

Project Name_ The Oyster Blocks Project

Image Credits_ Figure 01 – 07_ courtesy of the author

BIBLIOGRAPHY:

- Agrest, D. "Design Versus Non-Design," *Oppositions*, no. 6 (1976).
- Christian, R., F. Steimle, and R. Stone. "Evolution of Marine Artificial Reef Development — A philosophical Review of Management". *Gulf of Mexico Science* 16, no. 1 (1998).
- Crutzen, P. "Geology of Mankind." *Nature* 415 (2002).
- National Oceanic and Atmospheric Association. "Ocean Pollution" <http://www.noaa.gov/resource-collections/ocean-pollution>. (accessed Jan 12, 2017).
- Wilkenson, B. "Humans as Geologic Agents: A Deep-time Perspective," *Geology* 33, no. 3 (2003).

THE HAMMAM OF ERBIL CITADEL

Project Name_ Hammam of Erbil; Location_ Erbil, Iraq

Image Credits_ Figure 01 – 04_ courtesy of the authors

BIBLIOGRAPHY:

- Al-Haidari, A. *Urban renewal for Erbil Citadel: tafseer office Erbil* (2014).
- Al-Haidari, A. *Popular bathrooms in Erbil between past and present: Modern Discussion* (2014).
- Al Yaqoobi, D. *Highlights of Erbil Citadel*. Erbil: Government Governorate of Erbil High commission of Erbil Citadel Revitalization (2012).
- Ahmed, A. *Hammam – Herbestemming als brug naar de toekomst van Erbil*: Universiteit Hasselt (2014). not published.
- Derbandi, N. A. *Hammam as a Koerdish heritage*. Subartu: Issued

by Kurdistan archaeologists syndicate. Second year, no. 2 (2008): 140–141.

- MacGinnis, J. *Erbil in the Cuneiform sources*. Erbil: Ministry of Culture and Youth, Kurdistan Regional Government (2013).
- Musatafa, M. J. *Art of Decoration and Ornaments on the Stone in Erbil*: University of Salahaddin-Erbil in partial fulfillment of the requirements for the degree of M.A.in Islamic Archaeology, 2011.
- Plevoets, B. & K. Van Cleempoel. "Adaptive reuse as an emerging discipline: an historic survey," In *Reinventing architecture and interiors: a socio-political view on building adaptation*, ed. G. Cairns, 13–32. London: Libri Publishers, 2013.
- Resul, E. *Erbil, a historical study of Erbil's intellectual and political Role*. Cultural Centre of the Ministry of Culture — the Kurdistan Regional Government publications (2005).
- Yaraly, B. *So do not forget Arbil*: tafseer office of publishing & advertising / Erbil (2001).

(re)MADE BY WATER

Project Name_ New World Mall, Bangkok, Thailand

Image Credits_ All images courtesy of the author; Figure 01_ Mall; central court, Photograph by Perfect Lazybones; Figure 02_ Floating market in Bangkok, Photograph by Georgie Pauwels; Figure 03_ Mall, escalators, Photograph by Olga Saliy; Figure 04_ Mall, koi, Photograph by Olga Saliy; Figure 05_ Mall, escalators, Photograph by Olga Saliy.

BIBLIOGRAPHY:

- Behnke, A. *Angkor Wat*. Minneapolis: Twenty-First Century Books, 2008.
- Benjamin, W. and M. Jennings. *The Writer of Modern Life: Essays on Charles Baudelaire*. Cambridge, MA: Belknap Press, 2006.
- Bharne, V. *The Emerging Asian City*. London: Routledge, 2013.
- Bharne, V. and K. Krusche. *Rediscovering the Hindu Temple: The Sacred Architecture and Urbanism of India*. Newcastle-upon-Tyne: Cambridge Scholars Publishing, 2012.
- Budziak, A. *Text, Body and Indeterminacy: The Doppelganger Selves in Pater and Wilde*. Newcastle-upon-Tyne: Cambridge Scholars, 2008.
- Burke, P. *The New Cambridge Modern History: Volume 13*. Cambridge: Cambridge University Press, 1979.
- Byrnes, Mark. "Removing Fish from a Surreal Abandoned Shopping Mall," *The Atlantic*, January 16, 2015.
- Foucault, M., and Miskowiec, J. "Of Other Spaces." *Diacritics* 16, no. 1 (1986): 22–27.
- Fredrickson, Terry. "Bangkok's hidden fish pond," *Bangkok Post*, July 1, 2014.
- Goldstein, Sasha. "Abandoned Bangkok shopping mall Becomes incredible koi pond after years of neglect," *New York Daily News*, July 1, 2014.
- Grossman, N. *Chronicle of Thailand: Headline News Since 1946*. Paris: Editions Didier Millet, 2009.
- Hadjiyanni, T. "Rethinking Culture in Interior Design Pedagogy: The Potential Beyond CIDA Standard 2g," *Journal of Interior Design* 38, no. 3 (2013).
- Heberle, L. and S. Opp. ed. *Local Sustainable Urban Development in a Globalized World*. London: Routledge, 2008.
- Hill, C. *South Asia: An Environmental History*. Santa Barbara: ABC-CLIO Publishing, 2008.
- Kongarchapatara, B., and R. Shannon. "Transformations in Thailand's Retailing Landscape: Public Policies, Regulations, and Strategies" in *Retailing in Emerging Markets: A Policy and Strategy Perspective*, ed. Malobi Mukherjee, Richard Cuthbertson, Elizabeth Howard. New York: Routledge.

- Lefebvre, H. *Critique of Everyday Life, Volume II*. Brooklyn: Verso, 2002.
- Leslie, E. "Ruin and Rubble in the Arcades," in *Walter Benjamin and the Arcades Project*, ed. Beatrice Hanssen. London: Bloomsbury, 2006.
- McDonough, T. *Guy Debord and the Situationist International: Texts and Documents*. Cambridge: The MIT Press, 2004.
- Peng, H. *Dandyism and Transcultural Modernity: The Dandy, the Flaneur, and the Translator in 1930s Shanghai, Tokyo, and Paris*. London: Routledge, 2015.
- Pleasance, Chris. "Splashing out at the shops: Hundreds of fish take over abandoned Thai mall after it's Flooded." *Daily Mail*, June 26, 2014.
- Sobocinska, A. "The Expedition's Afterlives: Echoes of Empire in Travel to Asia." In *Expedition into Empire: Exploratory Journeys and the Making of the Modern World*, ed. Martin Thomas. New York: Routledge, 2015.
- Turnbull, D. "Soc. Culture: Singapore." In *The Architecture of Fear*, ed. Nan Ellin. New York: Princeton Architectural Press, 1997.
- Vidler, A. *The Architectural Uncanny: Essays in the Modern Unhomely*. Cambridge: The MIT Press, 1994.
- Wacharoen, Supoj. "Fish pulled from New World pond." *Bangkok Post*, January 13, 2015.
- Wacharoen, Supoj. "A New World fish pond." *Bangkok Post*, June 30, 2014.

T-HOUSE

Project Name_ T-HOUSE, theoretical project; Location_ Hains Point, Washington, D.C.

Image Credits_ Figure 01 – 08_ courtesy of the authors

BIBLIOGRAPHY:

- Bell, Catherine. *Ritual: Perspectives and Dimensions*. New York: Oxford University Press, 1997.
- DeFerrari, John. "The Vanished Teahouse at Hains Point." Paper presented at the 40th Annual Conference on DC Historical Structures, Washington, D.C., November 14–17, 2013.
- "EPA, D.C. Area Students Officially Launch World Water Monitoring Day 2008." *US Newswire*, Alexandria, Virginia: September 18, 2008. Ga |A185264601.
- Howes, F.N. "Tea." Review of *Tea* by T. Eden. *Nature* 4649 (1958): 1577.
- Jackson, J.R. "Tea." *Nature*, July 14, 1870: 215–217.
- James, H. *The Portrait of a Lady*. New York: Random House, the Modern Library, 1851.
- Okakura, K. *The Book of Tea*. Rutland, Vermont: Charles E. Tuttle Company, 1956.
- Proust, M. *Swann's Way*. Translated by Lydia Davis. New York: Penguin Books, 2003.
- Sen, H. Afterword to *The Book of Tea*, by Kakuzo Okakura. Translated by the Urasenke Foundation, Foreign Affairs Division. Tokyo: Kodansha International, Ltd., 1989.
- Tafuri, M. *The Sphere and the Labyrinth: Avant-Gardes and Architecture from Piranesi to the 1970s*. Cambridge: The MIT Press, 1992.
- Thomas, F. "Tea." *New England Review* 33, no. 1 (2012): 82–87.
- Wedzicha, B.L. "Tea." *Nutrition & Food Science* 79, iss. 6 (1979): 2–4.

THE BLUE LINE

Project Name_ blue developments; Location_ Battir, Palestine; Qeparo, Albania

Image Credits_ Figure 01- illustration by author

BIBLIOGRAPHY:

- De Sherbinin, A.; A. Schiller.; A. Pulsipher. "The vulnerability of global cities to climate hazards." *Environ. Urban.* 19 (2007): 26–39.
- Farmer, B. H. "Perspectives on the 'Green Revolution' in South Asia." *Modern Asian Studies* 20, no. 1 (1986): 175–199.
- McDonald, R.I.; P. Green; D. Balk.; B.M. Fekete.; C. Revenga; M. Todd; M. Montgomery. "Urban growth, climate change, and freshwater availability." *Proc. Natl. Acad. Sci. USA* 108 (2011): 6312–6317.
- Schuetze, T.; L. Chelleri. "Integrating Decentralized Rainwater Management in Urban Planning and Design: Flood Resilient and Sustainable Water Management Using the Example of Coastal Cities in The Netherlands and Taiwan." *Water* 5 (2013): 593–616.
- Shiklomnov, I. "World fresh water resources" in *Water in Crisis: a guide to the World's Fresh Water Resources*. edited by Gleick P.H. New York: Oxford University Press.
- UN, "International decade for action 'Water for life' 2005–2015." <http://www.un.org/waterforlifedecade/scarcity.shtml> (accessed November 6th, 2016).
- World DataBank, World Bank. "Rural population (% of total population)." <http://data.worldbank.org/indicator/SP.RUR.TOTL.ZS> (accessed November 6th, 2016).

ENVIRONMENTAL IDENTITY

Project Name 01_ Caiaques kayaks; Location_ Pinheiros River, São Paulo, Brazil; Artist_ Eduardo Srur; Project Name 02_ Pets; Location_ Tietê River in São Paulo, Brazil; Artist_ Eduardo Srur

Image Credits_ All photos courtesy of Eduardo Srur; Figure 01_ Caiaques, kayaks, Pinheiros River, photo_ Eduardo Nicolau; Figure 02_ Caiaques, kayaks, Pinheiros River, photo_ Alexandre Schneider; Figure 03_ Pets, Tietê River, photo_ Eduardo Srur; Figure 04_ Pets, Tietê River, photo_ Almeida Rocha

BIBLIOGRAPHY:

- Brocanelli, Pérola Felipette. *O ressurgimento das águas na paisagem paulistana: fator fundamental para a cidade sustentável*. Phd diss., Universidade de Sao Paulo, 2007
- Carvalho, Fabíola Araújo de. *Caminho das águas: A água na cidade de São Paulo*. Sao Paulo, Revista Belas Artes 13 (2013): 1–43, url <http://www.belasartes.br/revistabelasartes/?pagina=player&slug=caminho-das-aguas-a-agua-na-cidade-de-sao-paulo> (accessed February 25, 2017)

A METROPOLITAN PARK OF WATER

Project Name_ Metropolitan Water Park project, Location_ Saragossa, Spain

Image Credits_ Figure 01_ Bridge Pavilion & Third Millennium Bridge, Río Ebro, Zaragoza, España, Source_Pabellón Puente y Puente del Tercer Milenio, Author_ Juan E De Cristofaro from Zaragoza, España, CC-BY-SA-2.0; Figure 02_Google Earth aerial view of Zaragoza, Spain; Figure 03_ Plano topográfico de la ciudad de Zaragoza del siglo XVIII, Wikimedia;

BIBLIOGRAPHY:

- Ebropolis, *Plan Estratégico de Zaragoza y su entorno*, Zaragoza 2006.
- Ezquiaga, J.M., "El lugar: Zaragoza y la Expo", *Arquitectura viva* 117, *Pabellón de Espana Expo Zaragoza 2008*, (2007).
- La Expo de Zaragoza acumula unas pérdidas de 502 millones de euros, *El Periódico de Aragón*, April 04, 2010.

- Lecardane, R., G. Cimadomo. "Las grandes exposiciones en Europa 1992–2002. Efectos duraderos sobre la ciudad y apropiación por parte de la ciudadanía", in *Proceedings of International Seminar on World Events and Urban Change, Grupo de Investigación HUM-700*, Siviglia, 2012.
- Lecardane, R., "Expo, ville, architecture. Lisbonne et l'héritage de l'Expo'98, in *Cahiers thématiques — L'architecture et l'événement*, 8 (2009), 127–135.
- Martínez Ramírez, I.M., "Las estaciones del ferrocarril Zaragoza-Caminreal, vistas por sus autores, los arquitectos Luis Gutiérrez Soto y Secundino Zuazo Ugalde." *Artigrama* 14 (1999): 99–107.

BETWEEN RESILIENCY AND ADAPTATION

Image Credits_ All images courtesy of the author; Figure 01_ by author, background_ by Aleks Dahlberg at www.unsplash.com; Figure 02_ by author; Figure 03, 04_ graphic by author, background_ by Frantzou Fleurine; www.unsplash.com

BIBLIOGRAPHY:

- Buchanan, L., H. Fairfield, A. Parlapiano, S. Peçanha, T. Wallace, D. Watkins and K. Yourish.
- Erickson, C. "Crumple Zones in Automobiles," *Sourced through the American Institute of Physics*. (accessed July 28. 2015).
- Guattari, F. *The Three Ecologies*. 1989, Trans. Ian Pindar and Paul Sutton. New Brunswick, NJ: Athlone P, 2000.
- "Mapping the Destruction of Typhoon Haiyan", *The New York Times*. November 11, 2013. <http://www.nytimes.com/interactive/2013/11/11/world/asia/typhoon-haiyan-map.html>
- NOAA. "Storm Surge Overview", *National Hurricane Center | National Oceanic and Atmospheric Administration*. <http://www.nhc.noaa.gov/surge/>. August 27, 2015.
- Reed, C., and N. Lister. "Parallel Genealogie." In *Projective ecologies*. New York, 2014.
- Schwartz, J. "How to Save a Sinking Coast? Katrina Created a Laboratory", *The New York Times | Science*. August 7, 2015. http://www.nytimes.com/2015/08/08/science/louisiana-10-years-after-hurricane-katrina.html?_r=0
- Wu, J., and W. Tong. "Ecological resilience as a foundation for urban design and sustainability", In *Resilience in Ecology and Urban Design* 3 (2013): 211–229.

WATER AS MEDIUM

Project Name 01_ Water tower in Delft, Architect_ Rocha Tombal; Location_ Delft, NL; Project name 02_ Water tower in Brasschaat, Architect_ Crepain-Binst Architects; Location_ Brasschaat, Belgium; Project name 3_ Water tower Sint-Jans convent, Overijssel; Architect_ Zecc Architects; Location_ Overijssel, NL

Image Credits_ All images courtesy of the authors_ Figure 01_ typological evolution of the water tower, Source: Ingeonné; Figure 02_ Water tower in Delft (NL), photo by Christiaan Richters; Figure 03, 04, 05_ Water tower in Brasschaat (BE), Crepain-Binst Architects, photo_ Crepain Binst; Figure 06, 07_ Water tower Sint-Jans convent, Overijssel (NL), Zecc Architects, photo_ Stijn Poelstra, <http://www.stijnstijl.nl/>;

BIBLIOGRAPHY:

- Cercleux, A.-L., Mercliu F.-C., Peptenatu D. "Conversion of water towers — An instrument for conserving heritage assets." *Urbanism architectura constructi* 5, no. 2 (2014): 3–19.
- Norberg- Schulz, C. *Genius loci: Towards a phenomenology of architecture*. New York: Rizzoli, 1980.
- Van Craenenbroeck, W. *Eenheid in verscheidenheid watertorens in België*. Brussels: NAVewa, 1991.

Ahmed Abbas holds a Bachelor Degree in Architecture from the Technical University of Avans and a Master in Interior Architecture from Hasselt University in Belgium. He has six years of experience as an architect in leading his own company. He has been a lecturer at the University of Newroz (Iraq) since 2014, where he teaches Modern Design and coordinates Working / Drawing and Building Construction. Since 2015 he has been working on his Ph.D. entitled "A Proposed Methodology for the Adaptive Reuse of Traditional Buildings in the Buffer Zone of Erbil Citadel".

Brian Ambroziak is an Associate Professor of Architecture at the University of Tennessee, Knoxville. His publications include *Michael Graves: Images of a Grand Tour* (2005) and *Infinite Perspectives: Two Thousand Years of Three Dimensional Mapmaking* (1999) with Princeton Architectural Press. In 2008, Brian Ambroziak founded time[scape]lab with Andrew McLellan and Katherine Ambroziak.

Katherine Bambrick Ambroziak is an Associate Professor of Architecture at the University of Tennessee, Knoxville. Her publications include *DeadSpace Arlington*, *Material Scribe: Memoirs of the Collective Individual*, *Surrogate Stones*, *Odd Fellows: Constructing the Positive Place|Self*, and *Codification of Ritual in Design*. Since 2009, she has served as the primary designer and coordinator of the Odd Fellows Cemetery Reclamation Project, a conservation and rehabilitation initiative that aims to educate and support the minority communities of East Knoxville through the design and implementation of a responsive memorial landscape.

Michael Leighton Beaman is the founding principal of Beta-field, a design/research office run with Landscape Architect and educator Zaneta Hong. Michael is also a co-founding member of the design nonprofit GA Collaborative. Michael currently teaches at the University of Virginia where he is an Assistant Professor in Architecture and at the Rhode Island School of Design, where he is a critic in the Interior Architecture Dept. In addition to teaching and practice, Michael is a writer for *Architectural Record* focusing on design technologies and techno-centric design practices.

Inge Donn  completed her bachelor's degree in Interior Architecture at Lucca School of Arts, Brussels, and her master's degree on the topic of adaptive reuse at Hasselt University. After internships at Baccarne and Lens'ass architects, she researched the reuse of water towers and created a masterproject for the water tower of Hoeilaart (BE) as co-working space.

Dr Graeme Evans is Professor of Urban Design at Middlesex University, Department of Design and Director of the Art & Design Research Institute. He has been leading a research project in the Lee Valley as part of a 3 year Arts & Humanities Research Council-funded project: Towards Hydrocitizenship, exploring the changing relationships between people, ecosystems and urban water landscapes, and the legacy of waterside architecture and heritage. In June 2015 he curated the Hackney Wick & Fish Island Connecting Communities Festival including an exhibition of site-based design schemes including BA Interior Architecture student work, as part of the London Festival of Architecture. Graeme is also Professor

of Culture & Urban Development at Maastricht University, The Netherlands where he has been working on several industrial heritage re-use schemes.

Alexander Ford earned a B.S. in Architecture from the University of Arizona in 2014, and an M.S. in Historic Preservation from Columbia University in 2016. Ford currently works for Daniel Libeskind in New York. His architectural work has been published internationally.

Francesco Garofalo founded Openfabric in 2011, an office specialized in landscape architecture and urban planning based in the Netherlands. Francesco Garofalo studied Landscape Architecture in Van Hall Larenstein Arnhem, the Netherlands and in Genoa University. Through Openfabric he has led various awarded competitions and commissions, including: a proposal for New Tahrir square in Cairo, Egypt; an AIDS memorial park, New York, USA; renewal of the main boulevard in Genoa — Via XX Settembre, Italy (First prize); an urban square, realized in The Hague, The Netherlands (First prize). Francesco currently teaches at the Amsterdam Academy.

Nicholas Gervasi earned a B.ARCH and M.ARCH from Tulane University in 2012, and an M.S. in Historic Preservation from Columbia University in 2016. Gervasi currently works for AYON Studio Architecture and Preservation in New York.

Naomi House is a Designer, Educator and Writer with an approach to the Interior that is framed through forensic investigation. A Senior Lecturer in Interior Architecture at Middlesex University she is also a Tutor in Critical and Historical Studies at the Royal College of Art. Naomi is a founding member and Superintendent of C.I.D — the *Council of Inordinate Design*.

Catherine R Joseph is an architect based in New York City. She earned a Master of Architecture from Cornell University and a Bachelor of Science in Structural Engineering from Duke University.

Paola La Scala PLS, architect, she is *Doctor Europaeus in Museography* (Palermo). In 2013 attended, as a guest PhD student, the School of Museum Studies at University of Leicester (UK). Since 2013 she has been taking an active part in L@bCity Architecture, a research group headed by Prof. Renzo Lecardane at Department of Architecture in Palermo, concerning architecture and city planning, focusing on culture as important strategy for urban regeneration. Currently she is working on the use of digital technologies to enhance architectural heritage.

Renzo Lecardane, Ph.D. in Architectural Design (Palermo) and *docteur de l'Ecole Nationale des Ponts et Chauss es* (Paris), is Associate Professor in Architectural Design at Department of Architecture of University of Palermo. From 2000 to 2005 he carried out research and teaching activities in France (EAPMalaquais, EAPLa Villette, EAPVal de Seine; LATTS/ENPC-Paris; GRAI). From 2002 is associate to *Laboratoire Infrastructure, Architecture, Territoire* (ENSAPMalaquais). Since 2009 he is member of the Academic Board for the PhD in Architecture at University of Palermo. In 2013 he founded the research group *L@bCity Architecture* creating connections between architectural design and urban shape.

Karen Lens holds a Master in Architecture and Architecture Sciences from Sint-Lucas and KU Leuven, both in Belgium. She worked for 10 years as an architect specializing in adaptive reuse, energy efficiency and design for all. In 2012, Karen started a Ph.D. on the reinterpretation of underused monastic sites in Limburg (Belgium) and Western Europe at Hasselt University. She is also engaged in several design studios concerning adaptive reuse and collective dwelling at the same university.

Kees Lokman is an Assistant Professor of Landscape Architecture at the University of British Columbia. He holds degrees in planning, urban design and landscape architecture. Current research focusing on the intersection of landscape, infrastructure and ecology has been published in the Journal of Architectural Education, Topos, Landscapes|Paysages and New Geographies. Kees is also founder of Parallax Landscape, a collaborative and interdisciplinary design and research platform. klokman@sala.ubc.ca www.parallaxlandscape.com

Gregory Marinic an associate professor and head of the environmental and interior design program in the Syracuse University School of Design. His research and practice are focused on the intersection of architecture, interiors, obsolescence, geography, and adaptive reuse. A widely published design scholar and researcher, Marinic has served as an editor/associate editor of several international peer-reviewed publications, and as co-founder of the *International Journal of Interior Architecture & Design*. His most recent publications include *Journal of Architectural Education*, *Journal of Interior Design*, *AD Journal*, *Design Issues*, *International Journal of Architectural Research*, *IntAR Journal of Interventions and Adaptive Reuse*, and various publications of the Association of Collegiate Schools of Architecture.

Bie Plevoets studied Interior Architecture at the PHL University College in Hasselt (BE) and Conservation of Monuments and Sites at the Raymond Lemaire International Centre for Conservation in Leuven (BE). In 2014, she obtained a PhD in architecture at Hasselt University; her thesis was entitled 'retail-reuse: an interior view on adaptive reuse of buildings'. Her current research focuses on the theory of adaptive reuse, and preservation of spirit of place. She teaches courses on adaptive reuse at Hasselt University in the specialized master programme in Interiors 'Adaptive Reuse — exploring spatial potentials and the poetics of the existing'.

Anne Schraiber is a practicing architect based in S o Paulo, Brazil. She holds a bachelor degree in Architecture and Urban Planning from Universidade Mackenzie (2006) and a Master in Business Administration from Funda o Armando  lvares Pentead (2010). She continued her education at a postgraduate course in Ephemeral Architecture at Escuela T cnica Superior de Arquitectura de Madrid (2015). Anne was a participant at the 10th S o Paulo Architecture Biennale (2013) and won a best interior design project award at CASACOR TRIO (2011). Her academic interest focus on the research of the ephemeral design in the contemporary culture.

Lindsay Winstead is an architectural designer working in San Francisco, California for Rapt Studio. She began her career at Davis Brody Bond in New York City, after which she received

a Masters of Design in Adaptive Reuse, from the Rhode Island School of Design. Some of her built work includes the US Embassy Compound in Jakarta, Indonesia, Vivint Solar's headquarters in Lehi, Utah, and Lydian Dental in Tempe, Arizona.

EDITORS

Ernesto Aparicio is a Senior Critic in the Department of Graphic Design at RISD. Aparicio earned his BA at the Escuela de Bellas Artes, La Plata, Buenos Aires and completed his Post Graduate Studies at the Ecole des Art Decoratifs, Paris. Prior to moving to the US, he served as Art Director for Editions du Seuil in Paris, while maintaining his own graphic design practice, Aparicio Design Inc. Best known for his work in the world of publishing, Aparicio has worked on corporate identities, publications, and way-finding for corporations and institutions in France, Japan, and the US. Recently, Aparicio was named Creative Director for the New York firm DFA.

Markus Berger is Associate Professor and Graduate Program Director in the Department of Interior Architecture at RISD. Berger holds a Diplomingenieur f r Architektur from the Technische Universit t Wien, Austria and is a registered architect (SBA) in the Netherlands. Prior to coming to the US, Berger practiced and taught in the Netherlands, Austria, India, and Pakistan, and currently heads his own art and design studio in Providence. His work, research, writing, and teaching focus on art and design interventions in the built environment, including issues of historic preservation, sensory experience and alteration. He is a co-founder and co-editor of the Int|AR Journal.

Liliane Wong is Professor and Head of the Department of Interior Architecture at RISD. Wong received her Masters of Architecture from Harvard University, Graduate School of Design and a Bachelor of Art in Mathematics from Vassar College. She is a registered Architect in Massachusetts and has practiced in the Boston area, including in her firm, MWA. She is the author of *Adaptive Reuse: Extending the Lives of Buildings*, co-author of *Libraries: A Design Manual* and contributing author of *Designing Interior Architecture and Flexible Composite Materials in Architecture, Construction and Interiors*. A long time volunteer at soup kitchens, she emphasizes the importance of public engagement in architecture and design in her teaching. Wong is a co-founder and co-editor of the Int|AR Journal.



Creative building in existing fabric

Liliane Wong

Adaptive Reuse

Extending the Lives of Buildings

264 pages | 300 Figures (c)

Building in existing fabric requires more than practical solutions and stylistic skills. The adaptive reuse of buildings, where changes in the structure go along with new programs and functions, poses the fundamental question of how the past should be included in the design for the future.

On the background of long years of teaching and publishing, and using vivid imagery from Frankenstein to Rem Koolhaas and beyond, the author provides a comprehensive introduction to architectural design for adaptive reuse projects. History and theory, building typology, questions of materials and construction, aspects of preservation, urban as well as interior design are dealt with in ways that allow to approach adaptive reuse as a design practice field of its own right.

Liliane Wong, Head of Interior Architecture Dept., Rhode Island School of Design

Fundamental introduction to an important field of architectural design

For those who teach and those who learn

Versatile and vivid presentation

Paperback:

RRP *€ [D] 39.95 / *US\$ 44.95 /
*GBP 29.99
ISBN 978-3-03821-637-0

eBook:

RRP *€ [D] 39.95 / *US\$ 44.95 /
*GBP 29.99
PDF ISBN 978-3-03821-313-0
EPUB ISBN 978-3-03821-981-1

Print/eBook:

RRP *€ [D] 59.95 / *US\$ 68.00 /
*GBP 44.99
ISBN 978-3-03821-315-4

Date of Publication: November 2016

Language of Publication: English

Subjects:

Architecture > Types, Functions

Of interest to: Those who learn and those who teach design in existing structures

Order now! orders@degruyter.com

Int | AR

Interventions | Adaptive Reuse

Please find our current call for papers
on our website.
<http://intar-journal.risd.edu/>



Vol. 01 “Inaugural Issue”
2009, (out of print)
co-editors: Markus Berger, Heinrich Hermann and Liliane Wong



Vol. 02 “Adapting Industrial Structures”
2011, ISBN: 978-0-9832723-0-4
co-editors: Markus Berger, Heinrich Hermann and Liliane Wong



Vol. 03 “Emerging Economies”
2012, ISBN: 978-0-9832723-1-1
co-editors: Markus Berger, Liliane Wong
Associate Editor Maya Marx



**Vol. 04 “Difficult Memories:
Reconciling Meaning”**
2013, ISBN: 978-0-9832723-2-8
co-editors: Markus Berger, Liliane Wong



Vol. 05 “Resilience and Adaptability”
2014, ISBN 978-3-03821-606-3
co-editors: Markus Berger, Liliane Wong



Vol. 06 “The Experience Economy”
2015 ISBN:978-3-03821-984-2
co-editors: Markus Berger, Liliane Wong



Vol. 07 “Art in Context”
2016 ISBN:978-3-0356-0834-2
co-editors: Markus Berger, Liliane Wong

© 2017

by Rhode Island School of Design.

All rights reserved. No part of this publication may be reproduced, stored in a retrieval system or transmitted in any form or by any means electronic, mechanical, photocopying, recording, or otherwise without the prior permission of Int|AR and the Department of Interior Architecture. The views expressed in the articles do not necessarily reflect those of the editors, the Department of Interior Architecture, or of RISD. The editors would like to thank all contributors for their kind permission to publish their material.

ISSN 2154-8498

ISBN 978-3-0356-1197-7

ISBN 978-0-9832723-6-6