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TERRARIUM. EARTH DESIGN: ECOLOGY, ARCHITECTURE AND LANDSCAPE

TERRARIUM. EARTH DESIGN: ECOLOGY, ARCHITECTURE AND LANDSCAPE

SILVIA MUNDULA, ACURADI KEVIN SANTUS, SARA ANNA SAPONT

SILVIA MUNDULA, KEVIN SANTUS, SARAANNA SAPONE



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Mimesis

TERRARIUM. EARTH DESIGN: ECOLOGY. ARCHITECTURE AND LANDSCAPE

Silvia Mundula, Kevin Santus, Sara Anna Sapone

Terrarium collects research and reflections on the relationship between space, soil, vegetation and the biotic community, linked through the metaphor tion), Università luav di Venezia, Università of the terrarium. The book is curated by a research group from the Ph.D. program "Architectural Urban Interior Design". coordinated by Alessandro Rocca (Department of Architecture and Urban Studies at Politecnico di Milano), involved in the PRIN Sylva by the IUAV research unit.

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ACQUA VIVA E CORRENTE: INSIGHTS FROM RENAISSANCE FONTANIERI MASTERY

MARIANA PEREIRA GUIMARÃES, HERMANO LUZ RODRIGUES

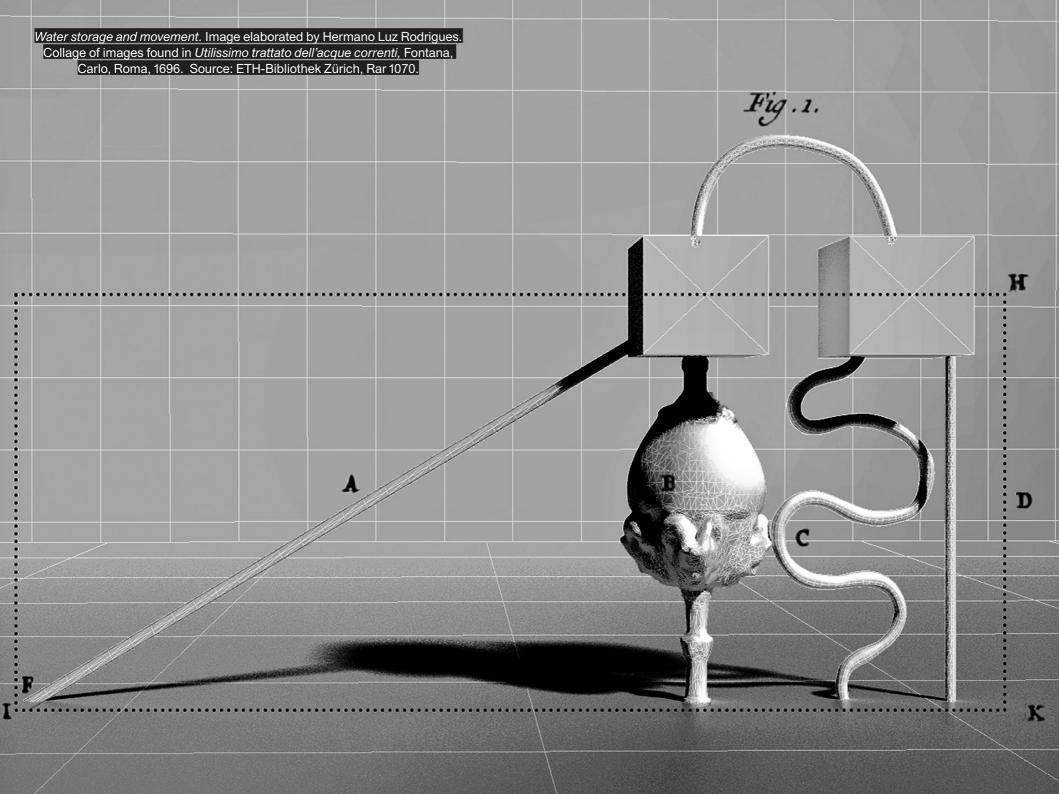
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In a moment when climate, social, and racial activism has entered architectural criticism and theory with full force (see the theme of the 18th International Architecture Exhibition, La Biennale di Venezia: The Laboratory of the Future), to pause and look back at Renaissance Garden villas seems counterintuitive. From today's perspective, the Renaissance brings up ideas of an idealized nature that are too antiquated to look at when analyzing the emerging questions regarding the design profession. Perhaps this is true if considering habits of judgment that rely on notions that oppose human and nonhuman concepts of nature, or ideas of nature vs. technology. However, when we acknowledge the lack of clear boundaries between what we define as landscape and technology, and human and nonhuman (Lee and Helphand 2014), landscape as a field of study emerges as an array of complex systems that can be observed from different lenses.

Today, professionals and scholars largely struggle to predict, account for, or respond to climate impacts in contemporary design projects, despite the many computational tools and techniques at their disposal. This shortcoming urgently calls for an experimental approach to both design research and design practice. As such, there is a growing number of scholars interested in defining "Designed Experiments" (Felson and Pickett 2005) and "Research Through Design" (RTD) methods and techniques, given these concepts' potential for innovation in the field and to respond to pressing issues such as climate change. Surprisingly, during the Renaissance, the fontanieri, the professionals who oversaw fountains' design and hydraulic marvels, found themselves in a similar position. As Katherine Rinne (2011) and Rafaella Fabiani Gianetto (2008) noted, the fontanieri had to rely heavily upon onsite experimentation rather than precise calculations. Rinne points out that although there is a consensus among scholars that theoretical inquiry in classical texts and hydraulic treatises from this period had an impact on fountain and garden design, it is often overlooked the fact that the design practice performed by these architect-engineers also influenced and helped move forward hydraulic science and engineering.

It is striking to note how little attention the field of garden and landscape history has devoted to the incredible mechanisms and techniques that were employed to move water, even though water was considered the very soul (the *anima*) of these gardens and devices. When perceiving such bodies, the physical properties overshadow the inner works.

Terrariums, for example, present a useful metaphor, because they are, at the same time, ecosystems filled with bloom-



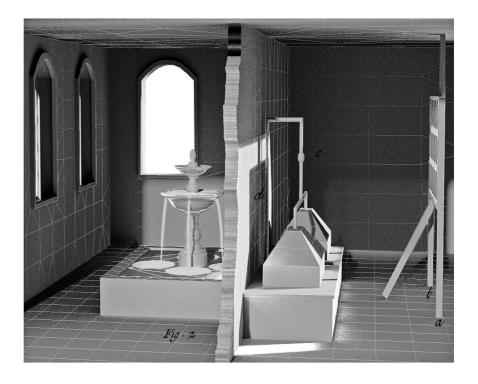
ing natural life and man-made inert environments. What attracts many people's attention often relates to their visible physical features: their mesmerizing and diorama-like appearance, a beautiful microcosmos of natural elements. Despite not giving the attention it deserves, the fascinating designs of both the terrarium and the garden villas were anchored by the control of water in a man-made system, the latter usually put underground and out-of-sight. Both are also evocative of the concept of a controlled nature, or a third nature as John Dixon Hunt refers to the garden villas: pleasant aesthetic landscapes (Hunt 2000, p. 34).

The control and transport of water are among the oldest challenges in human history, intrinsic to evolving notions of nature and its representation over centuries (Antoine Picon 2015). Even today, our relationship with water is not optimal, mainly because of the indiscernibility of water in everyday tasks: clean water comes out of the tap, or up in a fountain, after being transported and cleaned and transported again over kilometers of invisible underground pipes (Illich 1986; Graham 2009). Such is the nature of urban infrastructure that is conceived to mingle seamlessly in space to become invisible, as Graham and Thrift argue in "Out of Order: Understanding Repair and Maintenance" (2007). Antoine Picon re-states that the water crisis we find ourselves in today, be it scarcity or excess, is primarily political and technological (Margolis & Chaouin 2015).

The political roots of the problem have been explored extensively in the works of Matthew Gandy, Eryk Swyngedouw, Maria Kaika, and Bruno Latour (Gandy 2006). Nonetheless, the technological historical thread is also broad: water can be placed in the center of urban technological innovation from the first Roman aqueducts to the 18th-century Industrial Revolution in Europe (Fischer et al. 2016). Until the mid-18th century, engineering was often presented as a discipline mostly focused on hydraulic problems; in fact, it was commonly known as "hydraulic architecture." Architecture Hydraulique is also the title of the 18th century's most crucial engineering treatise, by Bélidor, concerned with conveying, distributing, and managing water. In this long historical thread, a forgotten figure, the fontanieri, in Italian, or fontainiers in French (Santini 2019), central to the creation of the sixteenth-century Italian garden can shed light on current discussions about the idea of nature and technology in design (Gissen 2019).

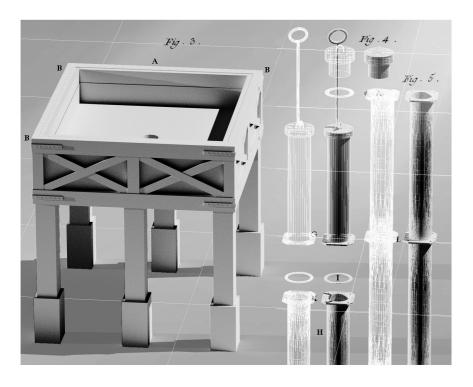
These individuals had several interdisciplinary skills, usually being artisans, plumbers, hydraulic engineers, and architects. Although the first *fontanieri* were not acknowledged, some

Another way to augment the strength of a fountain using solar energy. Image elaborated by Hermano Luz Rodrigues. Collage of images found in Book One, Problem XV, Les raisons des forces mouvantes by Solomon de Caus, Frankfurt 1615. Source: Smithsonian Libraries and Archives, Natural History Building.



Cistern design to store water and provide water pressure to public fountain and details of cistern pillars.

Image elaborated by Hermano Luz Rodrigues. Collage of images found in Etching from *L'Art du plombier et fontainier* attributed to Claude Matthieu Delagardette, Paris 1773. Source: National Library of France, Rare Books Reserve department, V-3974.



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achieved recognition such as Curzio Maccarone, known for completing notable masterpieces at Pirro Ligorio's Villa d'Este (1550-1572): the Tivoli Fountain, and the Fountain of Rome, or Rometta (Symmes, Breisch, and Astley 1998, p.139). Luc Le Clerc and Claude Venard were also known specialists in water automata, known for Villa d'Este's Water Organ (Barbieri 2020).

The fifteenth-century discovery of ancient texts, mainly Vitruvius' manuscript in 1408, led to a renewal of artistic and technological interest in fountain construction (Coffin 1991, p. 50-53), prompting a new stake in hydraulics. One century later, the restoration of ancient water networks and the new influence of popes and powerful families led to a revival in the construction of water devices, such as in Villa d'Este. Bernardo Buontalenti, well versed in humanistic topics, masterminded new water jets and automata for the Medici Villa (1569-1589) in Pratolino, near Florence, combining knowledge from classical texts and new construction technologies (Fabiani Giannetto 2008). Hydraulic expertise then migrated to France from Italy in 1598, when Tommaso and Alessandro Francini, who had worked with Buontalenti on Pratolino, were summoned by Henri IV and his wife Marie de Medici to design a great Italianate Garden for the Chateau of St. Germain-en-Laye (Coffin 1991, p. 54).

The commission of talented *fontanieri* in foreign territories certainly popularized these new inventions. Still, the primary means of transmitting practical hydraulic information throughout Europe was via published treatises and illustrated books, contributing to the evolution of scientific technology. Buontalenti's Norman apprentice Salomon de Caus (1576-1626) became an internationally renowned pioneer in hydraulics. de Caus published the "Principles of Moving Forces" in 1615, a fundamental text on hydraulic mechanics and garden engineering that influenced future *fontanieri* (Strong 1979, p. 73-79).

The Italian architect and engineer Carlo Fontana (1638-1714), who worked with Bernini redesigning the plaza in front of St. Peter's, and who designed the fountain pool for Rome's Fontanone for the Acqua Paola in 1690, also published an important treatise on hydraulics. Fontana's *Utilissimo trattato dell'acque correnti* (The Most Useful Treatise on Moving Waters), 1696, was based on an ancient text about Roman aqueducts by Frontinus. It also incorporated explanations of the most recent scientific discoveries. Fontana's text on aqueducts underscores that pipes are an essential component of the hardware that makes fountains work.

Likewise, the late eighteenth-century French book, *L'Art du plombier et fontainier* (The Art of Working in Lead and Foun-

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tain Making), 1773, attributed to Claude Mathieu Delagardette, is an informative guide to forging lead, as well as to making pipes, joints, drains, gutters, cisterns, reservoirs, and other fountain fixtures. The book also notably covered the installation methods necessary for utilitarian and ornamental fountains.

Drawings that illustrate underground pipes and mechanics, like the ones by de Caus, Fontana, and Delagardette, are rare to find in contemporary landscape design books. Systems such as reservoirs and underground pipes are essential components of these projects, therefore should be presented as notable contributions and brought to the fore. Nowadays, like in the project of the Renaissance Garden villas, teams of hydraulic engineers and experts work together with architects and artists to conceptualize modern fountain waterworks, that are true artworks but later rendered invisible literally and figuratively because these covert infrastructures and their development are never seen or shown to the public. The figures responsible for designing these systems, the architect engineers, and the hydraulic experts behind these projects, remain largely hidden figures. In some ways, they bear similarities with Renaissance fontanieri. According to Stephen Graham, quoting Bernward Joerges, to become infrastructure, certain technology must become invisible, or at least culturally invisible in a process called "technology black boxing". Unboxing these mechanics and knowledge, however, even in experimental ways, may open or illustrate pathways to innovative thinking and further understanding in the contemporary design discipline.

The 'Starchitect' figure can be seen as a consequence of this black-boxing system, in which the hierarchies and lack of accreditation in productions end up venerating a single figure or type of profession. This has incited many students and prospective professionals to aspire to be in that specific role. Regarding design itself, in the twentieth century, the field of fountain hydraulics expertise has also incorporated digital and computer processing technologies combined with the traditional methods dating back from de Caus, Bèlidor and Fontana (Symmes, Breisch, and Astley 1998, p. 25) opening possibilities for innovative design conceptualizations but also new opportunities to incorporate fountains in public spaces as big as the 3,450 sqm Bordeaux's water mirror to Olafur Elyasson's fog rings.

Digital technology and the creative use of materials and mediums can help envision and make visible the complexities behind such systems and give them new meaning in a time of several environmental crises.

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Acknowledging the unsung heroes and the necessity of their work can mitigate such pervasive issues in contemporary architecture and design culture and promote a more balanced professional ecosystem.

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Kevin Amendt is an independent researcher engaged in the study of underground guarries, their role in today's landscape and their preservation. Member of the "Studiegroep Onderaardse Kalksteengroeven". "vzw Hulpdienst Groeven" and founder of "Onderzoeksbureau MGL". he advises public and other organisations in the border re- compositional practice. aion Lièae (BE) - Limbura (NL/BE).

MARGHERITA AUTORINO

tient creative, third of four children. After classical high school, she enriched her university course with two years abroad, practicing drawing at FAUP in Porto and ecology at ENSP in the Master's Degree in Architectural Design at Versailles-Marseille, and on-site internships with Wagon-Landscaping and the Botanical Garden Senior Lecturer in Architectural Theory and Deof Rome. In 2023, she graduated with honors in partment Head of Equality, Diversity and Inclu-Architecture - Urban Design at Roma Tre, guided sion at Northumbria University, Newcastle. by A. Metta, presenting with C. Condemi Maglia Boscata, a landscape architecture thesis on the material and immaterial, microscopic and cos- Federico Broggini is architect graduated at Acmic geographies of the Magliana Stream.

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Annalisa Azzola is a marine ecologist and research fellow at University of Genoa. She fin-tude Platform for Urban Design and Research. In ished her PhD in Marine Science and Tech- 2022 he started a PhD in landscape architecture nologies in 2023. Her research topics include at RomaTre University. The thesis explores the characterization, monitoring, and assessment of the ecological status and change over time asphalt, investigating their intrinsic values and of coastal ecosystems. Part of her research potentialities in landscape design practices. also focuses on assessing local and global anthropogenic impacts. Her studies are based on scientific diving techniques, including visual field Thomas Cabai is an Italian architect and Ph.D. surveys and photographic sampling.

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Beatrice Azzola is an architect and academic researcher. She worked in several architecture firms in Italy, Portugal and Switzerland, In 2021 she started her PhD on Italian highway architecture and landscape. She also works on the odiversity Future Center and is currently working disciplinary interferences between architecture on several projects of Restoration Ecology and and ecology.

GINO BALDI

Hassan (Bevbe) Ahmed is a Maldivian environ- Architect, in 2020 founded in Bergamo with Serena Comi, Vacuum Atelier, an architecture and ed the NGO "Save the Beach Maldives". Since design studio, winner of architecture awards for young architects and architecture competitions. He holds a doctorate in architectural composition communities and schools. In 2014 he started his (PoliMi - AUID) (2019 -), Participates in academic first coral restoration project. He led projects on conferences in Italy and abroad such as CA2RE Milan and Ljubljana (2020-21) and Conceptual Design of Structures in Zurich (2021). Workshop Urban regeneration and Industrial heritage EPFL Lausanne (2023)

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Mattia Baldini is an architect, founder and member of Fuoriformato Architettura, and PhD researcher in Architecture. Theories and Design (cycle XXXVIII, SSD: ICAR/14) at La Sapienza, University of Rome. He has conducted research in Italy (Florence, Rome) and abroad (ETSA in Seville). The main field of research application concerns the relationship between the theoretical pretexts of design and their applications in

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Nadia Bertolino. PhD. is an architect, writer and educator concerned with ethical design practic-Born in Rome in 1997, curious explorer and pa- es in response to socio-spatial inequalities and environmental emergency. She is Assistant Professor in Architectural and Urban Design at the University of Pavia, Formerly, Nadia coordinated Sheffield School of Architecture and she was

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cademia di Architettura di Mendrisio. Since his early experiences he focused on urban and landscape design, in particular dealing with soil and water management concerns. He is part of Latiworld of urban soils, in particular sealed soils by

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candidate at the Department of Architecture and Urban Studies (DAStU) at Politecnico di Milano, where he is also a teaching assistant in the Landscape and Infrastructure Design Studio, His main research interest lies within the relationship between ecology and built environment in anthropic territories. He is part of the National Bi-Phytoremediation in the Metropolitan City of Milan, Tuscany and Friuli Venezia Giulia.

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Chiara Caravello is a PhD candidate in architecture in a double programme between the University of Liège (BE) and Politecnico di Milano (IT). out her research on underground quarries in the cross-border area of the 'Three Countries Park' in the Eureaio Meuse-Rhine (BE-NL-DE).

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Amina Chouairi is a PhD student in Urbanism at Università luav di Venezia and holds a Master of Science in Landscape Architecture from Delft University of Technology. Since 2019, she has been researching and working on the Venetian Lagoon complex transitional territory, exploring the debated relations among its cultures and namarshes, i.e. the ignition point from which to rethink the Venice-in-a-lagoon system.

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Saskia de Wit is landscape architect and assistant professor at the Section of Landscape Architecture, Delft University of Technology. She Awarded with a FNRS fellowship, she is carrying designs gardens and landscapes at her office Saskia de Wit tuin en landschap. Her research focuses on the garden as a core concept of the field of landscape architecture: the concept of the garden is used as a lens for further research into site-specificity, the sensory perception of place, urban landscapes, leftover spaces and urban forestry.

DAMIANO DI MELE

of future transformations. Recently, she has applied this reflection to the River Po basin. She is co-tutorship with the Universidad Politécnica de part of the research team financed by Enel Green Madrid (UPM). Graduated cum laude from the luav University of Venice after a period of training in Spain. His current research is focused on the analysis of themes related to the history and criticism of contemporary Spanish architecture in the relationship between figurativeness and structure. He participates in research activities in the GIPC group (Grupo de Investigación en Paisaie Cultural) at the Proyectos Arquitectónicos department of the Escuela Técnica Superior de Arquitectura de Madrid (ETSAM), where he has been a visiting doctoral researcher since 2022.

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tures. Crucial for her is the understanding of the Sara Favargiotti is Associate Professor at the agency of the barene landscape - the brackish University of Trento, DICAM, Her research investigates the multiple identities of landscapes through applied research at different scales, focusing on fragile territories, emerging infrastructure, adaptive dynamics and regenerative design. Local coordinator of project B4R. Branding for Resilience (PRIN, 2020-2024), member of the Directive Board of IASLA (since 2018), she is co-founder and scientific advisor of the innovative startup RUMA S.r.I. SB.

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ANDREA FOPPIANI

tural, Urban, and Interior Design from the DAStU department at Politecnico di Milano, where he graduated with honors in Sustainable Architecture and Landscape Design. His research focuses on post-logistics landscapes in the Po Valley, working through more-than-human ecologies to explore future hybrid scenarios. He is an academic tutor in design studios and is part of the Landscape Offfl Limits International Workshop's organization team.

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Hermano Luz is a designer from Brazil and a Valentina Noce is an architect and researcher PhD researcher in Creative Technologies at the based in Milan (Italy). She is the founder of ar-University of Galway. He received a Master's in chitectural office Sabotage Practice. She is com-Design Studies degree from the Harvard Gradupleting a PhD in Architecture Interior and Urban ate School of Design, where he was a curator of Design at Politecnico di Milano, where she's also the GSD Kirkland Gallery. He has exhibited and collaborating in teaching activities. Bridging the published internationally as an artist and contrib-realms of architectural practice and academic uted to several technological art projects. In his practice, he mixes iconic cultural heritage with between space and technology. contemporary digital media to inspire participatory creative practices.

INA MACAIONE

Unibas, coordinates the Phenomenology of with the transformations of architecture, city and landscape in the process of ecological transition and Climate Change.

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Valerio Massaro is an architect and academic AA School (Projective Cities).

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Davide Montanari graduated with honors in Sustainable Architecture and Landscape Design from Politecnico di Milano where he is currently doing a PhD in Architectural, Urban, and Interior Design. His research focuses on the practices of Irene Pancrazi is a marine biologist specialising appropriation of water within the Po River Basin to unveil protocols of exploitation and investigate In 2016 she started to work for the NGO "Save future visions through the image of cyborg landscapes. He works as tutor in design studios and ing event in the Maldives and feeing the urge to is member of the Landscape Of[f] Limits Interna- take action. Since then, she was in charge of tional Workshop's organization team.

LAURA MUCCIOLO

tecture. Theories and Design, Sapienza Univer- of the project managers at the NGO and shares sity of Rome. In 2022, she exhibits the ephemeral the same dream as its founder: to grow back the design With Mies van der Rohe into a New World whole reef and see it thrive. (Neue Nationalgalerie) during the Hypercomfort SS by S. Bru (BRUTHER). In the year, she was guest curator with Michelangelo Pivetta and Giacomo Razzolini of the touring exhibition Isolario Venezia Sylva (curated by Sara Marini) at Dept. Paradiso (Libria, 2023).

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VALENTINA NOCE

research, her work delves into the intersections

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ANDREA OLDANI

and a PhD candidate at the AA School of Archi- Andrea Oldani is an assistant professor of Landtecture. He holds a degree in architecture from scape Architecture at the Department of Archithe University of Florence and an MPhil from the tecture and Urban Studies at Politecnico di Milano, where he is faculty member of the School He taught Design and History and Theory in sev- of Architecture, Planning and Construction chitecture and Planning. His researches on the landscape of contemporary infrastructure, are documented by a consistent number of scientific publications. Oldani curated seminars, exhibitions and editorial works.

IRENE PANCRAZI

in tropical environments and their restoration. the Beach Maldives", after witnessing a bleachthe set-up and the research protocol of various coral restoration projects. She collaborates with various Italian universities, tutoring students and Laura Mucciolo, architect, is Ph.D. st. in Archi-supporting scientific research, Today she is one

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versity of Venice, PhD and Associate Professor ber of architecture firm filoferro architetti. He is in Architectural Design in the Department of Ar- teaching tutor at the Department of Architecture chitecture of University of Florence. The field of of the University of Florence. He was a research application of the theoretical research is the pro- fellow at the University of Florence and Pavia for iect and its manifestation through the ephemeral projects dealing with different themes. In 2022. balance between technique, construction and he was quest curator with Michelangelo Pivetform. He writes essays and books addressing in ta and Laura Mucciolo of the touring exhibition parallel the didactic and professional activities Isolario Venezia Sylva (curated by Sara Marini) at as experimental opportunities for perennial and Dept. of Architecture in Florence. necessary verification.

MICHELE PORCELLUZZI

Michele Porcelluzzi is an architect and PhD can- of architecture and the Head, for the period didate in Architectural, Urban and Interior Design 2019-24, of the Ph.D. program of Architectural at DAStU, Politecnico di Milano, in collaboration Urban Interior Design (www.auid.polimi.it) at the with the National Biodiversity Future Center. His Department of Urban Studies of Politecnico di research interest is focused on the concept of collectiveness in architectural and urban design. He is a founding member of the research project Assume There's a Landscape. His research ac-biology and artificiality, nature and society, wiltivity has been published in journals including derness and humanity" and the Ca2re European OASE (2022) and Die Architekt (2023) and exhibited at IABR 2022 in Rotterdam.

CHIARA PRADEI

Chiara Pradel, PhD Arch, (Politecnico di Milano, 2022), is a Landscape Architect and Post-doc researcher at TU Delft, Faculty of Architecture and the Built Environment. Her research explores study the design transition facing climate fragilground movements originated by building activities and its impacts on the morpho-typological ities, mainly focusing on material culture, reuse aspects of the project. and circular baukultur. She lives and works between Milan (Italy) and Delft (Netherlands).

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Sara Protasoni, Head of the M.Sc. in Sustainable Architecture and Landscape Design Politecnico di Milano - Piacenza Campus, is Full Professor of Landscape Architecture and member of the Board of the PhD Program in Landscape Architecture at La Sapienza University in Rome At the Politecnico di Milano she combines teaching Meanwhile, she worked in Milan-based architecwith an intense activity of design and theoretical research on landscape. She is the author of several monographs and over a hundred essays published in books and journals in the field.

ALESSANDRO RAFFA

Alessandro Raffa, architect PhD, is assistant professor PON R&I FSE-REACT EU at DICEM Unibas; member of NatureCityLAB and UNESCO Chair on Mediterranean Cultural Landscapes research groups. PhD at DAStU Politecnico di Milano, research fellow Sven-Ingvar Andersson at Benetton Foundation (2020) and post-doc re- of two Ph.D. titles. SJTU + PoliMi. in 2019, he searcher at DAD Politecnico di Torino (2021). He has been a visiting scholar at the BUCEA. The is currently Fulbright Visiting Scholar at Univer- core topic of his research covers architectural sity of Florida. College of Design, Construction strategies of revitalization in complex settlement and Planning and Florida Institute for Built Environment Resilience

GIACOMO RAZZOLINI

Michelangelo Pivetta, graduated from IUAV Uni- Giacomo Razzolini architect, founder and mem-

ALESSANDRO ROCCA

Alessandro Rocca is an architect, a professor Milano. His recent research develops within the program of national interest (PRIN) "SYLVA - Rethink the sylvan: Towards a new alliance between Consortium for design-driven research.

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Kevin Santus is an Architect. Research Fellow and Ph D, candidate at the Politecnico di Milano. (Italy) in Architecture, Urban, and Interior Design. He won an interdisciplinary grant (2020-2024) to

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Sara Anna Sapone is an Architect, Ph.D. candidate and Research Fellow at Politecnico di Milano. Here she was involved in teaching and research activities, such as the program G124 promoted by Renzo Piano on italian peripheries. ture firms, addressing urban renewal and architectural design. Since 2020, she's developing her doctoral research "Precision Wildland" within the AUID program at PoliMi and a research stay at the Landscape architecture section of TU Delft, funded by the Idea League Grant.

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Giulia Setti, architect, Ph.D., is an Assistant Professor of Architectural and Urban Design at Politecnico di Milano, Department of Architecture and Urban Studies. In 2022, she published a typological study of the stepwells in Ahmedabad, India. Her research focuses also on reusing industrial architecture. She worked In the Territorial Fragilities project led by DAStU – Department of Excellence 2018-2022. In 2014-2015, she developed research activities at CEPT University, Ahmedabad, India.

CHIARA TOSCANI

Chiara Toscani is an architect, educator and researcher based in London. She is currently a PhD candidate at the AA School in London in History and Critical Thinking in Architecture. She got her first PhD in Architectural and Urban Design at the Politecnico di Milano and was awarded a postdoctoral research fellow in 2010. She taught urban and architectural design at the Politecnico di Milano, tutored at AA Summer School and Ravensbourne University. Author of essays and books. For a decade, she worked as a senior architect at Cino Zucchi Architetti.

JO VAN DEN BERGHE

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