

Abitare la Terra *Dwelling on Earth*

rivista di geoarchitettura a magazine of geoarchitecture

PER UNA ARCHITETTURA DELLA RESPONSABILITÀ | FOR AN ARCHITECTURE OF RESPONSIBILITY

Quaderni



SUPPLEMENTO AL NUMERO 59
ANNO XXI 2022 TRIMESTRALE



GANGEMI EDITORETM
INTERNATIONAL

DIRETTA DA / CHIEF EDITOR
PAOLO PORTOGHESI



a cura di / edited by
Carmine GAMBARDILLA

Giuseppe ANTUONO
Angela Alessandra BADAMI
Giovanni Maria BAGORDO
Michela BENENTE
Barbara BONANNO
Fernanda CANTONE
Francesca CASTAGNETO
Alessandro CIAMBRONE
Francesca CIAMPA
Sumeyra CIFTCI
Gian Carlo CUNDARI
Maria Rosaria CUNDARI
Claudia DE BIASE
Raffaella DE MARTINO
Stefania DE MEDICI
Vittorio FIORE
Chiara INGROSSO
Dowon KIM
F. Sebnem KULOGLU YUKSEL
Dominik LENGYEL
Salvatore LOSCO
Andrea MARCUCETTI
Carmela MARIANO
Anahita MIRANI
Francesca MUZZILLO
Yuki NAGASAWA
Takeyuki OKUBO
Rosaria PARENTE
Hartmut PASTERNAK
Giulia PELLEGRINI
Maria Rita PINTO
Nicola PISACANE
Efisio PITZALIS
Laura RICCI
Mosè RICCI
Irene RUIZ BAZÁN
Francesca SALVETTI
Riccardo TAVOLARE
Catherine TOULOUSE
Roberta ZARCONE
Natasa ZIVALJEVIC-LUXOR



Con il numero 37 la rivista "Abitare la Terra", a quattordici anni dalla sua nascita, cambia il suo formato, ma non il suo obiettivo: la tutela dell'ambiente e la promozione di una architettura, che abbandonata la tendenza all'esaltazione individualistica delle grandi personalità creative, che ha condizionato la produzione architettonica degli ultimi decenni, torni ad essere una disciplina rigorosa, che ha per obiettivo il miglioramento della vita di tutti gli esseri viventi e per questo non rinuncia a utilizzare i frutti di una esperienza secolare che coinvolge le diverse civiltà umane. Il termine Geo-architettura, che si legge nella testata, è stato coniato da Le Corbusier, nel 1942 per la sua riflessione su *Les trois établissements humains* e allude a una architettura che abbracci tutto ciò che l'uomo ha costruito sulla superficie terrestre. Per noi oggi Geo-architettura vuol dire una architettura umile, che, sia arte senza per questo ammantarsi della superbia del nuovo fine a sé stesso, che si faccia carico della necessità di proteggere l'ambiente, di ridurre i processi di inquinamento, di combattere la disuguaglianza tra i popoli, di ridurre i processi che attraverso i cambiamenti climatici rischiano di distruggere gli equilibri del pianeta e il suo paesaggio. Per fondare la Geo-architettura è necessario a nostro parere: imparare dalla natura e dalla storia, rispettare l'identità dei luoghi, recuperare la "coralità" degli spazi urbani, abbattere gli sprechi di risorse non rinnovabili e di tempo umano, contrapporre a uno sviluppo senza limiti, che presuppone una impossibile "crescita infinita", una crescita spirituale di cui si avvertono i primi sintomi anche nella architettura.

Fourteen years after *Abitare la Terra* was published for the first time we have decided to change its format, but not its goal: to protect the environment and promote architecture. No longer an architecture that has abandoned its tendency to praise and exalt larger-than-life creative individuals and the architectural works that have influenced recent decades, but an architecture that is once again a meticulous discipline focusing on improving the lives of all living creatures; an architecture that exploits the "fruits" of its centuries-old history and many different civilisations. The term Geo-architecture at the top of the front cover of this issue number was coined by Le Corbusier in 1942 when he wrote *Les trois établissements humains*; the term refers to an architecture that embraces everything man has built on the earth's surface. For us, Geo-architecture means humble architecture, an architecture that is art without necessarily the arrogance of being an end unto itself; an architecture that assumes the responsibility of protecting the environment, reducing pollution, fighting inequality between peoples, reducing the processes of climate change that may destroy the balance that exists here on earth and its landscapes. We believe that to create Geo-architecture we need to: learn from nature and history; respect the identity of places; reinstate the "choral nature" of urban spaces; drastically reduce the way we waste non-renewable resources and human time; and replace unlimited growth (involving impossible "endless growth") with spiritual growth, the seeds of which are now beginning to grow in architecture.

Abitare la Terra

Società editrice
Gangemi Editore S.p.A.
Via Giulia 142 - 00186 Roma
www.gangemieditore.it

Direttore responsabile
Paolo Portoghesi

Caporedattore
Mario Pisani

Redazione
Petra Bernitsa, Lucia Galli,
Francesca Gottardo, Rosaria
Parente, Leone Spita, Stefania Tuzi
Via Giulia 142 - 00186 Roma
abitarelaterra@gangemieditore.it

Comitato scientifico di
Abitare la Terra
Mario Botta, Augusto Romano
Burelli, Françoise Burkhardt, Orazio
Carpenzano, Maurice Culot, Richard
England, Carmine Gambardella,
Sabina Martusciello, James Wines,
Paolo Zermani

Grafica e impaginazione
Gangemi Editore S.p.A.

Traduzioni
a cura degli autori

Stampa
Gangemi Editore S.p.A.

Registrazione Trib. Roma
n. 501 del 19/11/2001

The Author of a contribution guarantees that the article issued has not been published previously and that texts offered for publication are in no way an infringement of existing copyright. The Author accepts responsibility for obtaining permissions to reproduce in his/her article materials copyrighted by others. The Author agrees to hold the Journal Editor in Chief and the Publisher free from any claim, action or proceeding occasioned to them in consequence of any breach of the warranties mentioned above. The contributions are provided for free by Authors. The Author, in submitting his/her paper, automatically agrees with the above mentioned rules.

I WOULD LIKE SUBSCRIBE TO QUADERNI DWELLING ON EARTH - A MAGAZINE OF GEOARCHITECTURE
DESIDERO ABBONARMI AI QUADERNI DI ABITARE LA TERRA - RIVISTA DI GEOARCHITETTURA

4 ISSUES / 4 NUMERI ITALY / ITALIA € 60,00

4 ISSUES / 4 NUMERI OUTSIDE ITALY ORDINARY MAIL / ESTERO \$/€ 84,00

I HAVE PAID BY INTERNATIONAL MONEY ORDER ON YOUR ACCOUNT / HO PAGATO SUL VOSTRO CONTO
IBAN: IT 10 0 02008 05022 0004000008005 BIC/SWIFT: UNCRITMIB92

PLEASE CHARGE MY CREDIT CARD THE DUE AMOUNT / PREGO ADDEBITARE SULLA CARTA DI CREDITO
 AMERICAN EXPRESS VISA DINERS MASTERCARD

| | |
|------------------------------|------------------------|
| NAME / NOME | SURNAME / COGNOME |
| STREET / VIA | TOWN POSTAL CODE / CAP |
| STATO, REGIONE, PROVINCIA | COUNTRY / CITTÀ |
| TELEPHONE-FAX / TELEFONO-FAX | EMAIL |
| CARD NUMBER / CARTA N. | ESPRES / SCADENZA |
| DATE / DATA | SIGNATURE / FIRMA |



Abitare la Terra Dwelling on Earth

rivista di geoarchitettura a magazine of geoarchitecture
PER UNA ARCHITETTURA DELLA RESPONSABILITÀ FOR AN ARCHITECTURE OF RESPONSIBILITY

Quaderni

sommario summary

- 3** EDITORIAL / EDITORIALE
WORLD HERITAGE AND DWELLING ON EARTH ECOLOGICAL TRANSITION,
DESIGN FOR HEALTH, CULTURAL CONTAMINATION
CARMINE GAMBARDELLA
- 6** LANDSCAPES IN VISUALISATIONS OF ARCHITECTONIC HYPOTHESES
DOMINIK LENGYEL, CATHERINE TOULOUSE
- 9** STUDY FOR IMPROVEMENT OF EVACUATION SAFETY OF CUL-DE-SACS ROADS IN HISTORIC
STREETS. A STUDY ON THE INSTALLATION OF EMERGENCY EVACUATION DOORS
IN KAMIGYO-WARD, KYOTO JAPAN
TAKEYUKI OKUBO, YUKI NAGASAWA, DOWON KIM
- 12** PUZZLE DESIGN BETWEEN VISION, SPEED, DESIGN AND SUSTAINABILITY
ANDREA MARCUCCETTI, AHAD SHAHHOSEINI
- 15** BACK R|H|JOME *SOUVENIR DU POSTURBAINE*
MOSÈ RICCI
- 18** URBAN AND SOCIAL RENEWAL IN CASTEL VOLTURNO
CLAUDIA DE BIASE, SALVATORE LOSCO
- 21** LARGO SAN PAOLO IN POZZUOLI: FLEXIBLE AND CONNECTIVE DESIGN
RAFFAELA DE MARTINO, FRANCESCA MUZZILLO, NICOLA PISACANE
- 24** REDISCOVERING STEFANIA FILO SPEZIALE
CHIARA INGROSSO
- 27** GENUA PICTA 1982-2023. EXPERIMENTATIONS OF INTEGRATED SURVEYS
GIULIA PELLEGGRI, FRANCESCA SALVETTI
- 30** ADVANCED MANUFACTURING SOLUTIONS AND ADDITIVE MANUFACTURING
FOR EXISTING BUILDINGS RENOVATION
FERNANDA CANTONE, FRANCESCA CASTAGNETO, VITTORIO FIORE
- 33** TERRITORIAL GOVERNANCE AND CLIMATE ADAPTATION TOWARDS AN ENVIRONMENTAL
PERSPECTIVE OF URBAN REGENERATION
LAURA RICCI, CARMELA MARIANO
- 36** REWILDING URBAN SPACE. THE REGENERATION OF BUDOLFI PLADS (AALBORG, DK)
ANGELA ALESSANDRA BADAMI
- 39** A MAINTENANCE STRATEGY FOR THE CARE OF LANDSCAPE BUILT ENVIRONMENT:
THE ARTISTIC PRACTICE OF MASSA LUBRENSE
FRANCESCA CIAMPA, STEFANIA DE MEDICI, MARIA RITA PINTO
- 42** KNOW HOW AND KNOW HOW TO DO. ARCHITECTURAL DESIGN AND THEATRICAL BIOMECHANICS
EFISIO PITZALIS, BARBARA BONANNO
- 45** FORGOTTEN ARCHITECTURES. THE DIGITAL RECONSTRUCTION
OF THE CHIGI STABLES DESIGNED BY RAFFAELLO
**GIOVANNI MARIA BAGORDO, GIUSEPPE ANTUONO,
MARIA ROSARIA CUNDARI, GIAN CARLO CUNDARI**
- 48** THE ANALYSIS OF VALUES AS A STRATEGY FOR THE CONSERVATION OF CULTURAL HERITAGE
MICHELA BENENTE, IRENE RUIZ BAZÁN
- 50** THE EXISTING BUILDING AS A SOURCE OF ENERGY: PROPOSAL OF A METHOD FOR THE
DEVELOPMENT OF OPERATIONAL PROCEDURES FOR REUSE
ROBERTA ZARCONI, ANAHITA MIRANI
- 52** REPRESENTATION ARCHITECTURAL HERITAGE: HBIM AND IOT FOR THE SAFETY
ROSARIA PARENTE, RICCARDO TAVOLARE
- 57** WORLD HERITAGE SITES IN GERMANY AND DWELLING ON EARTH
NATASA ZIVALJEVIC-LUXOR, HARTMUT PASTERNAK
- 59** TRANSFORM OF TRADITIONAL SANLIURFA HOUSES LOCATED
IN THE HISTORICAL AREA OF THE CITY
F. SEBNEM KULOGLU YUKSEL, SUMEYRA CIFTCI
- 61** SQUARE OF ART: A PRIVATE ART CULTURAL CENTRE ON THE NAPLES' WATERFONT
ALESSANDRO CIAMBRONE

I Quaderni di Abitare la Terra sono a cura di Carmine Gambardella

Abitare la Terra SI TROVA IN TUTTE LE PRINCIPALI LIBRERIE. PER INFORMAZIONI E RICHIESTE POTETE RIVOLGERVI ALLE SEGUENTI LIBRERIE FIDUCIARIE:
ANCONA LIBRERIA FELTRINELLI | BARI LIBRERIA FELTRINELLI | BENEVENTO LIBRERIA SRL MASONE | BOLOGNA LIBRERIA FELTRINELLI |
BOLZANO MARDI GRAS | BRESCIA LIBRERIA FELTRINELLI | FERRARA ARCHITECTONICA SNC DI BORSARI & C. | LIBRERIA FELTRINELLI | FIRENZE
ALFANI EDITRICE • CLU (COOP. LIBRARI UNIVERSITARIA) • CUSL (COOP UNIV. STUDIO LAVORO) • LIBRERIA FELTRINELLI • LIBRERIA L.E.F. | GENOVA
• LIBRERIA FELTRINELLI • LIBRERIA PUNTO DI VISTA | MILANO • LIBRERIA L'ARCHIVOLTO SAS • CUSL (COOP UNIV. STUDIO LAVORO) • EQUILIBRI DI
SCHERINI IVAN • LIBRERIA FELTRINELLI, MANZONI • LIBRERIA FELTRINELLI, BAIRES • LIBRERIA FELTRINELLI SARPI • LIBRERIA FELTRINELLI, DUOMO •
LIBRERIA HOEPLI • LIBRERIA TRIENNALE, PALAZZO DELLA TRIENNALE | MESTRE LIBRERIA FELTRINELLI | NAPOLI LIBRERIA FELTRINELLI • LIBRERIA
C.L.E.A.N. • LIBRERIA IL PUNTO, DI BAGNO VERDUCI | PADOVA LIBRERIA FELTRINELLI PALERMO LIBRERIA DANTE • LIBRERIA FELTRINELLI | PARMA
LIBRERIA FELTRINELLI • LIBRERIA FIACCADORI SRL | PESCARA LIBRERIA CAMPUS SNC • A. DI SANZA & C. • LIBRERIA FELTRINELLI • FILOGRASSO LIBRI
• LIBRERIA DELL'UNIVERSITÀ | PORDENONE LA RIVISTERIA, DI RUSCOLO GIUSEPPE | RAVENNA LIBRERIA FELTRINELLI | REGGIO CALABRIA
LIBRERIA ASCHENEZ • PE.PO. LIBRI | REGGIO EMILIA LIBRERIA VECCHIA REGGIO SRL | ROMA LIBRERIA DEDALO • LIBRERIA DEDALO SRL • LIBRERIA
FELTRINELLI, ORLANDO • LIBRERIA FELTRINELLI, BABUINO • LIBRERIA FELTRINELLI, ARGENTINA • LIBRERIA KAPPA DI CAPPABIANCA ANDREA • LIBRERIA
KAPPA DI CAPPABIANCA PAOLO • GANGEMI EDITORE | SALERNO LIBRERIA FELTRINELLI | SARONNO S.E. SERVIZI EDITORIALI SRL | SIENA LIBRERIA
FELTRINELLI | TORINO • LIBRERIA FELTRINELLI • LIBRERIA CELID | TRENTO LA RIVISTERIA SNC VERONA LA RIVISTERIA • LIBRERIA RINASCITA |
VENEZIA LIBRERIA CLUVA • LIBRERIA PATAGONIA | VIGEVANO FER.NET. SRL

IN COPERTINA / FRONT COVER

Campi Flegrei, Pozzuoli: georeferenced image taken from the monitoring carried out with the Benecon technological platform, twin-engine aircraft equipped with PhaseOne 150Mpix and TABI 1800 TSR Thermal Search & Rescue sensors.

9
QUADERNO
GANGEMI EDITORE
INTERNAZIONALE
DIRETTA DA / CHIEF EDITOR
PAOLO PORTOGHESI
SUPPLEMENTO AL
NUMERO 59
ANNO XXI 2022
TRIMESTRALE
ISSN 1592-8608

Rewilding Urban Space. The Regeneration of Budolfi Plads (Aalborg, DK)

ANGELA ALESSANDRA BADAMI

Department of Architecture,
University of Palermo, Italy
angela.badami@unipa.it

Tackling environmental degradation and halting the growing loss of biodiversity are among the most urgent imperatives at the turn of the third millennium. In response to the global environmental crisis, different approaches to nature conservation, biodiversity protection and ecosystem restoration are emerging. Among these, rewilding is conquering large fields of experimentation, an approach that aims to strengthen the adaptive capacity of ecosystems by restoring natural processes and minimizing human intervention or management [1-3].

Although rewilding was originally associated with rural projects, it is also experiencing growing interest in the field of urban regeneration. Urban rewilding is an urban design approach that can deliver quality built environments through the use of natural resources and the incorporation of native plants and animals [4].

Urban rewilding can help mitigate the effects of climate change by making cities more resilient and delivering a number of benefits, including:

- Promote biodiversity by providing food and habitat for wildlife and forming green corridors to connect fragments of nature together;
- Reconnect city dwellers with nature, enabling people to receive physical and psychological benefits, develop stronger connections

with nature, and appreciate ecosystem dynamics and aesthetic values of wilderness;

- Help create or inspire ecological and cultural change in society;

- Reduce the management costs of urban green using native species able to survive and reproduce in an almost autonomous way and without expensive maintenance interventions

(planting, pruning, cleaning, irrigation);

- Contribute to local rainwater management, enabling the collection, storage and purification of rainwater and its subsequent reuse;



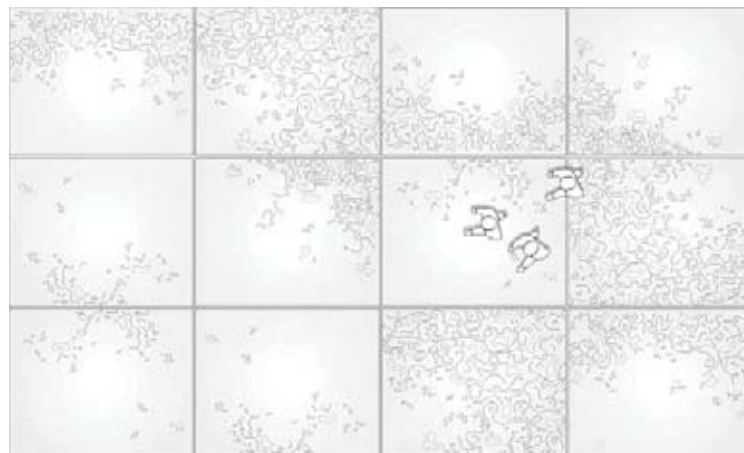
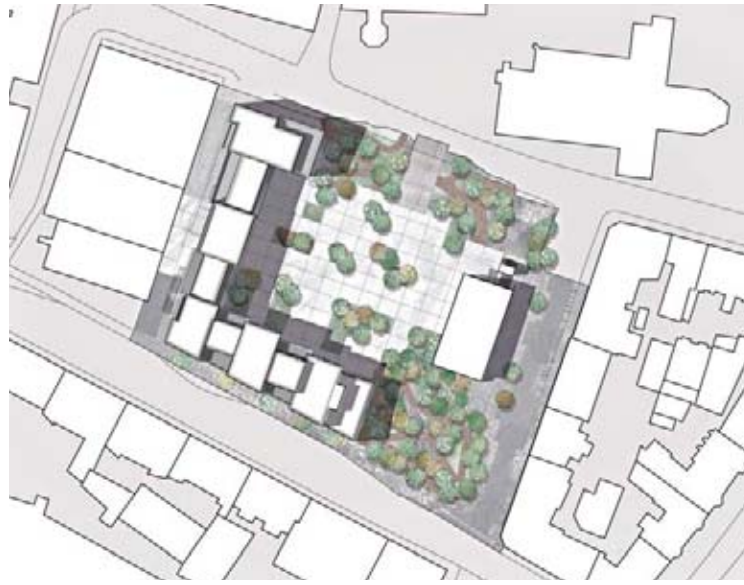
- Contribute to the reduction of urban pollution;
- Help reduce the heat island effect in cities.

In urban rewilding, nature cannot be left completely free to conquer its spaces; it requires careful planning and is configured as a trans-disciplinary practice involving the disciplines of urban design, landscape architecture, botany, environmental engineering and hydraulic engineering.

One of the most recent urban regeneration projects inspired by rewilding is the redevelopment of Budolfi Plads, the cathedral square of Aalborg in Denmark. The project – started in March 2017 and completed in November 2019 – addresses the delicate issue of introducing wild nature into the historic city centre and is part of Aalborg's transition process from an industrial hub to a city of culture and knowledge [5].

The transformation of historical context had to deal with a radical change in the historicised image of places. This required a long and intense public debate, supported by the Municipality of Aalborg, which was attended by citizens and experts in landscape architecture and environmental engineering [6]. The general vision emerged from the debate was to create an oasis of peace and tranquillity in the centre of Aalborg, a green recreation area equipped for playing, meeting and socializing.

Before the transformation, the square looked like an anonymous parking lot and was separated from the church by a building built in the 1960s. The project involved the following transformations [7]: the building was demolished to reconnect the square to the cathedral; the walking surface was raised so as to leave the surface entirely pedestrian and cover the parking areas; the buildings surrounding the square have a common architectural language and are built in red brick to recall traditional building materials; all the environments that open onto the square host public functions (restaurants, cafés, art galleries, shops) and interact with the public space, favouring



a good synergy between the urban space and the function of the buildings; green roofs and green facades support local stormwater management solutions; most of the square is destined for greenery.

On the south and north sides of the square there are two large stairways intersected by ramps that blend into the vegetation, like paths in the woods. The large square above is paved with large white cement tiles interspersed with flowerbeds, like natural ground on which paving stones are laid for circulation. The tiles are marked by sinuous grooves that recall the traces that microorganisms leave in the plaster deposits, also acting as an anti-slip.

The general image appears as a slight hill full of vegetation inside which the paths leading to the top are inserted. The mix of plants restores the experience of a forest, importing a piece of Danish natural landscape into the historic city centre.

The Budolfi Plads regeneration project, starting from the greenery, provides an innovative contribution to urban planning in historical contexts for the original conception of urban green. The innovative value of the project consists in enhancing the ecosystem balances of nature, regardless of the principles of aesthetic-formal evaluation of urban green intended as mere decoration. Trees, shrubs, tall and perennial grasses, flower bulbs and ground cover plants were selected that are able to adapt to local climatic conditions and within an urbanized environment. The plants were planted according to specific associations, adopting the principle of collaboration, i.e. the ability to adapt, live, reproduce and support each other.

The project represents a breakthrough in traditional urban design and received the Aalborg Municipality Architecture Award in 2020 for the harmonious combination of wilderness and architecture in the historic city centre. The open space was designed following the principles of natural ecosystems, reconstructing a piece of the Danish forest landscape. Covered surfaces

and buildings adapt and integrate into this space, and not vice versa, reaffirming the priority role of greenery.

The urban policies implemented for the realization of the project involved citizens, specialists, investors and stakeholders in a process of cooperation. Dialogue and collective participation preceded the design phase and were the basis of the design choices. This ensured the appreciation of a project that transformed the appearance of the central square of the historic centre to the maximum. Moreover, the multifunctionality of the square has made it possible to respond to the various questions and expectations expressed by the different users. The project has made a significant contribution to the environment and biodiversity. The vegetation is varied, lush and verdant, appealing to the senses and ensuring different experiences as the seasons change. The species planted have been chosen to increase biodiversity, to create variety in terms of spatiality and to insert a new green volume in a dense part of the city.

The large biomass, that the project has introduced into the area through the green roofs, flower beds and trees, has multiple effects on the microclimate of the area: the vegetation absorbs CO₂, absorbs polluting particles from the air and reduces the acoustic resonance between buildings; provides shade in the summer months reducing the urban heat island effect; helps reduce rainwater runoff and increases evaporation.

With the transformation of Budolfi Plads, a new green identity has been created in the heart of Aalborg offering accessible meeting places for people of all ages, thus strengthening social cohesion. Today the square is buzzing with life and has become one of the busiest and most loved central points in the city. ■

Bibliographical References

[1] CARVER, Steve (et alii). Guiding principles for rewilding. *Conservation Biology*. 2021, **35**(6), 1882–1893. ISSN 0888-8892.
 [2] MASSENBERG, Julian R. (et alii). Towards a holistic approach to rewilding in cultural landscapes. *People and Nature*.



2023, **5**(1), 45–56. ISSN 2575-8314.
 [3] PERINO, Andrea (et alii). Rewilding complex ecosystems. *Science*. 2019, **364**(6438). ISSN 0036-8075.
 [4] MILLS, Jacob G. (et alii). Urban habitat restoration provides a human health benefit through microbiome rewilding: the Microbiome Rewilding Hypothesis. *Restoration Ecology*. 2017, **25**(6), 866–872. ISSN 1061-2971.
 [5] BADAMI, Alessandra. *La rigenerazione urbana di Aalborg. Un modello di sviluppo sostenibile per il futuro delle città*. Milano: FrancoAngeli, 2022.
 [6] AALBORG KOMMUNE. *Opsamling på fordebat af Budolfi Plads*. 2015.
 [7] AALBORG KOMMUNE. *Lokalplan 1-1-117 Centerområde, Budolfi Plads, Vingårdsgade, Aalborg Midtby*. 2017.

1. P. 36. Budolfi Plads before the transformation. The Budolfihus building separated the church from the square. The square was entirely occupied by a parking lot. Source: Aalborg Kommune, 2017.
2. P. 36. Budolfi Plads after the transformation. An artificial hill covers the underground car park. The pedestrian area is richly planted with native plant species. Ph. A. Badami, 2022.
3. P. 37. Transformation project of Budolfi Plads. Planimetry. Source: Aalborg Kommune, 2017.
4. P. 37. Transformation project of Budolfi Plads. North-South section and East-West section. Source: Aalborg Kommune, 2017.
5. P. 37. Render of the transformation project of Budolfi Plads. Source: Aalborg Kommune, 2017.
6. P. 37. Principle for engraving grooves in cement tiles. Source: Aalborg Kommune, 2017.
7. P. 37. Budolfi Plads. Stairways and ramps immersed in forest vegetation. Ph. A. Badami, 2022.
8. P. 38. Urban furniture in Budolfi Plads. Chaise longue in concrete and wood. Ph. A. Badami, 2022.
9. P. 38. Budolfi Plads. Stairway between the church of San Budolfi and the top of Budolfi square. Ph. A. Badami, 2022.
10. P. 38. Southeast side of Budolfi Plads. The terrain of the hill is contained by embankments in corten steel. Ph. A. Badami, 2022.
11. P. 38. The church of San Budolfi seen from the pedestrian square above the hill of Budolfi Plads. Ph. A. Badami, 2022.