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Carmine Gambardella

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Carmine Gambardella

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Agri-tecture: towards a collaborative architecture. Public spaces and urban agriculture for ecological and resilient transitions

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Abstract

By 2050 the global population is projected to reach 9,7 billion. The pressure on cities, along with the crises linked to climate change, drive us to imagine new urban metabolisms to achieving the SDGs of UN 2030 Agenda.

As part of the RESO PON Project, a demonstrator of urban agriculture will be built in Matera, showing how transformations of public spaces in favor of biodiversity can be achieved through the collaborative forms of the architectural project in a more resilient and productive city.

Keywords: resilience – climate change – architectural design – SDGs – nature-based solutions

1. Introduction

In the face of mounting global challenges, human society finds itself at a critical juncture. Extreme natural events, due to climate change, intertwine with the intensification of conflicts, health crises, economic instability and social tensions, revealing how fragile and vulnerable are the (eco)systems we inhabit.

The consequences and the complexities of these interdependent crises draw our attention to the urgent need of coordinated efforts on a global scale. As «the magnitude and rate of climate change and associated risks depend strongly on near-term mitigation and adaptation action» [1], it is crucial to understand the multifaceted dimensions of these challenges and to devise innovative and sustainable strategies to address them effectively, tracing the path to just and resilient transitions.

The Earth has been subjected to an unsustainable level of pressure due to the overuse of its resources and this is evidenced by the data. Earth Overshoot Day (EOD) marks the date when humanity's consumption of ecological resources and services surpasses the Earth's capacity to regenerate them. According to the Global Footprint Network, we reach EOD earlier every year, and in 2023, it fell on August 2nd [2]. This means that for the rest of the year, we maintain an ecological deficit.

This trend needs to be considered in relation to the world's population growth: by 2050 it will

reach 9,7 billion and almost seven out ten people are projected to live in cities [3]. Ensuring «sufficient, affordable and nutritious food within planetary limits» [4] means to achieve an economic, social and environmental balance for the creation of sustainable food systems, questioning how they can shape the city. Nature-based solutions (NbS) play a crucial role in improving resilience and sustainability by integrating natural elements and processes into urban areas. They emerge as valid design tools applied at the local level, yet their effects must be considered on a larger scale, taking into account their global impact on the environment and society [5]. Additionally, NbS can help in achieving the Sustainable Development Goals (SDGs) of UN 2030 Agenda [6].



Fig. 1: Serra Venerdi Dreamin', collage by Enrica Gaia Consiglio, 2024.

2. Urban Agriculture

Cities become open laboratories of ecological transition, in which is possible to explore new shapes of community through the collaborative forms of the architectural and urban project. The COVID-19 pandemic has shown the need for a proximity space and a resilient food system, making us aware of the «inextricable links between healthy people, healthy societies and a healthy planet», as highlighted by the Farm to Fork Strategy, an essential part of the European Green Deal [7].

Within the framework of these policies, Urban Agriculture (UA) represents a multifaceted issue that provide answers to a growing demand of social resilience in the neighborhoods [8]: it goes beyond food security, encompassing broader goals such as social cohesion, equity and resilience to extreme events[9].

UA has to be considered as a part of a city's green infrastructure and it usually refers to farming practices conducted in confined urban areas. Indeed, many examples demonstrate how community gardens take root in what can be defined as 'junkspace': spaces of the city that remain «after modernizations has run its course» [10]. 'Solid' elements in a 'liquid modernity' [11].

These residual spaces, which have escaped fast-paced urbanization for multiple reasons, remain inside the city waiting for a new meaning. In this sense, community gardens are the key to understand urban recycling: residual spaces find a second life in the creation of a green space able to activate new replicable urban metabolisms linked to the vision of a Continuous Productive Urban Landscape [12].

Public space design becomes a participatory process, in which citizens are directly involved into city decision-making, favoring their self-empowerment process. This leads beyond the dichotomy between public and private spaces, generating a deeper concept: that of collective

space [13], where different actors work together on its design, implementation and maintenance, shaping at the same time, a 'collective consciousness'. Participatory design is one of the keys to exercise the 'right to the city' [14]: a collective right of urban dwellers to transform the urban environment and their own way of experiencing it, according to their needs.

As a NbS, UA contributes to improve sustainability through its three pillars: a) from an environmental perspective, UA facilitates a connection with nature, while contributing to the mitigation of climate change effects and the preservation of biodiversity; b) from a social perspective, UA promotes social cohesion, integration and education, fostering a sense of belonging to the spaces; c) from an economic perspective, UA generates micro-circular economy systems and it contributes to self-production of food. UA actively contributes in making cities and human settlements inclusive, safe and sustainable, helping achieve SDG 11. However, its effects extend beyond this directly linked goal to impact other SDGs as well.

2.1 Case studies: Red de Huertos Urbanos (Madrid, ES) and OR.ME. (Turin, IT)

Two case studies are selected based on their similar approach to the organizational structure. Specifically, the presence of two organizations, *Red de Huertos Urbanos* (Madrid, ES) and OR.ME. (Turin, IT), emphasizes the necessity of UA practices to be integrated on a network. It is important to underline the effectiveness of such organizations in:

- a) giving visibility and practical support to existing and emerging practices of UA;
- b) acting as intermediaries between administrations/stakeholders/associations;
- c) fostering communication and cooperation among associations;
- d) having a systemic vision.

Within the framework of replicability, their presence could also facilitate data collection, making it accessible and useful for evaluating the impact of the activities. This could ensure that successful practices can be implemented in other contexts in order to achieve similar benefits. A 2013 study [15] conducted by Urban Networks identified 573 urban voids as negative, empty and no human interaction [16] within the central area of Madrid, with a total surface area of 630,000 m²: an incredible hidden treasure, where incompleteness holds a promise [17]. Starting from these voids and understanding the value of emptiness, it is possible to envision new possible futures for a resilient and productive city through UA [18].



Fig. 2: *Esta es una plaza* in Madrid, ES. Photo by Enrica Gaia Consiglio, 2018.

To explain the growing interest in UA in the Spanish capital, it is useful to focus on the context of Madrid. In pursuit of «a dream of solidarity, participation, and creativity in cities» [19], the City Hall (especially during Manuela Carmena's administration) promoted policies aimed at addressing climate change and increasing public awareness of environmental issue [20].

The Municipal Urban Gardens Program was established in 2014 through an agreement between two associations, FRAVM and the *Red de Huertos Urbanos de Madrid*. It promotes and supports non-profit associations in the development of sustainable UA projects, giving them the tools to start their own project [21]. It has facilitated the implementation of specific regulations concerning urban gardens, setting criteria for the allocation and management of urban voids.

Through the Municipality's online geoportal, it is possible to access to a constantly updated database. April 2024 data reveals an upward trend in UA practices in the Madrid Metropolitan Area with a total of 216 school gardens, 57 community gardens and 45 healing gardens [22].

The second case study, located in Turin, is OR.ME. [23]. It was founded as an informal network in 2017 by 7 local organizations. In Italy, according to 2017 ISTAT data [24], there

has been an increase in the presence of urban gardens (+4%), totaling 2 million square meters circa across 77 capitals. This trend has been further amplified by the COVID-19 pandemic, as indicated by Coldiretti/Ixe [25].



Fig. 3: *Orti Generali* in Turin, IT. Source: <https://www.ortigenerali.it>

The vision of OR.ME. is linked to the production of natural and sustainable food through participatory processes, aiming to create resilient communities and solidary networks to guarantee the access to nourishing food. In 2021, it became a second-level association with a new mission: to connect and to leverage the experience in UA of its members for the benefit of local stakeholders, associations and the entire community. OR.ME. embarked on a field research to map existing UA practices, creating structured frameworks that simplify monitoring and management processes. This initiative, although operating on a smaller scale, reflects the organizational structure observed in the Madrid case, highlighting the importance of coordinated networks to establish a systemic vision of UA practices.

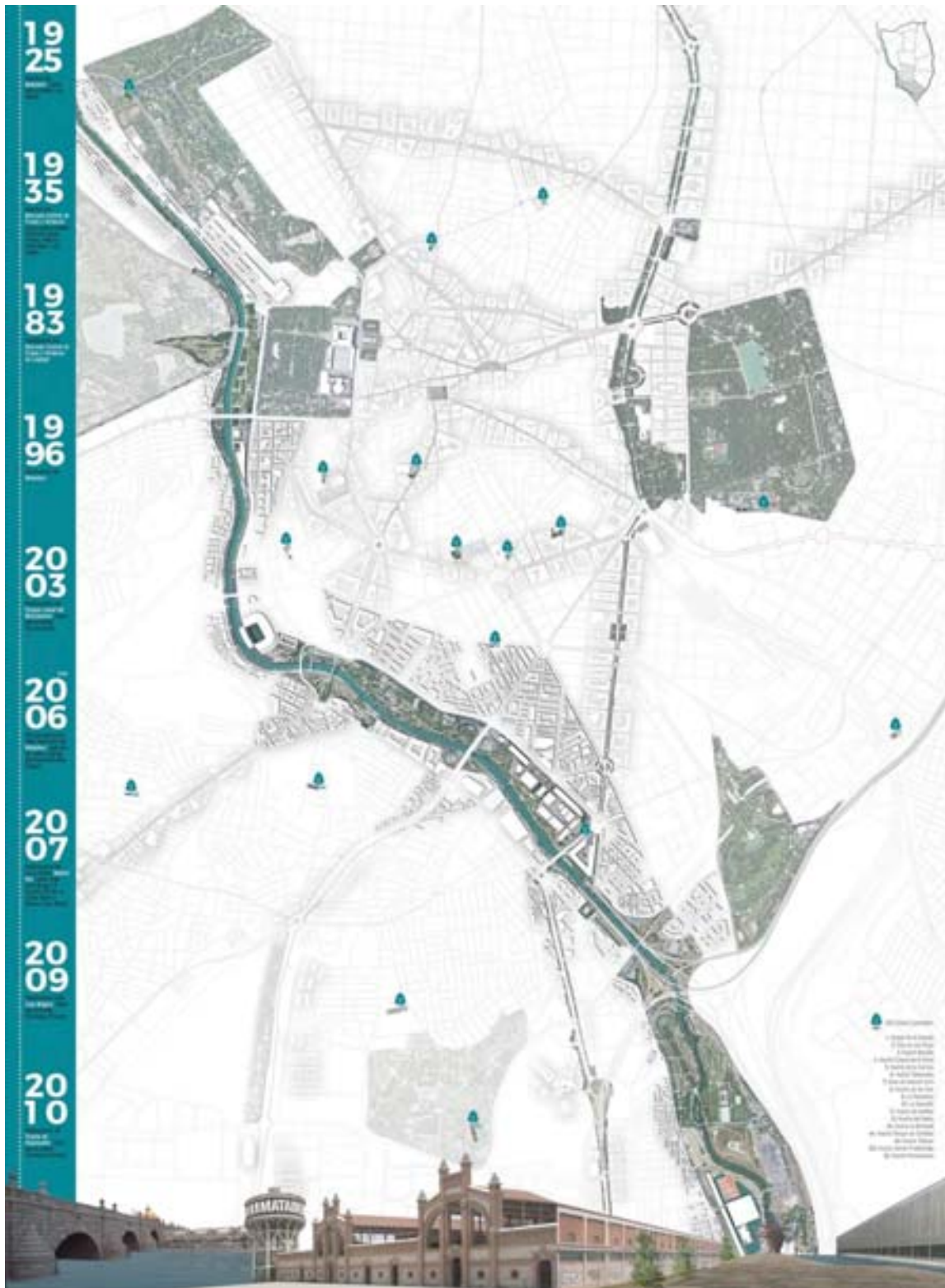


Fig. 4: Madrid's infrastructure systems. Source: CONSIGLIO, Enrica Gaia. *Recycling through Agri-tecture. Madrid 2030: Future Hybrid Factory in Legazpi*. Master's Degree Thesis, University of Palermo, tutor Renzo Lecardane, 2021.

3. RE.SO. through Agri-tecture

RE.SO. (Resilience and Sustainability of the fruit and vegetable and cereal supply chains to valorize territories) is a PON Project promoted by University of Basilicata in collaboration with other 18 public and private partners. It focuses on the challenges of the agrifood area of the Southern Italy Regions (Basilicata, Apulia, Calabria and Campania) with the aim of promoting sustainable development through the innovation of processes, products and services, while preserving natural capital.

One of the final outcomes is to build a 'demonstrator' of an UA laboratory as a prototype of NbS platform that explore the role of food «as a cultural 'form of process' and creative invention produced by the relationship between space and society» [26].

The exploration of this relationship, through the notion of community, was deeply rooted in the design principles of Matera's historic neighborhoods, developed as a consequence of the 1952 urban renewal law for the *Sassi* [27]. Among these neighborhoods, Serra Venerdi has been selected as the site to host the demonstrator.

Serra Venerdi, planned by Luigi Piccinato and Luisa Anversa (1953-57), is described as the 'village- neighborhood' [28] by Piccinato himself. Inspired by the typology of a Lucanian hillside village, the urban project aimed to integrate buildings and streets into the morphological context, trying to emphasize the value of *Sassi's* community. In addition, green spaces would have ensured a high level of sustainability, creating a human scale city.

The original urban layout is still recognizable today. However, it is worth noting that the gardens, originally intended to be a source of sustenance for each household, are now almost entirely absent from the urban landscape.



Fig. 5-6: The productive function of the gardens has largely disappeared over time, as seen in the comparison between the original project (source: RESTUCCI, Amerigo. *Matera, I Sassi*. Turin: Einaudi, 1997, p. 289) and the current situation (elaboration by Enrica Gaia Consiglio, 2024).

In recent years there has been a renewed desire to reconnect with nature in Serra Venerdi. Since 2020, Noi Ortadini, a non-profit association, has been taking care of an abandoned urban green area that was previously used as waste dump. Today, it is a community garden where events and workshops on gardening, ecosystem restoration, outdoor education for children and debates on climate change and sustainable lifestyles take place.

Their efforts led them to win the New European Bauhaus 2023 Prizes in the 'rising star' category under the 'reconnecting with nature' section [29]. The one of Noi Ortadini is an example of how to use natural resources in an urban environment in a healthier way, promoting a better understanding and education about food production.

Sharing the same vision, we have chosen them as our stakeholders and co-developers of the project.



Fig. 7: Green area in Serra Venerdì adopted by Noi Ortadini. Photo by Enrica Gaia Consiglio, 2024.

The demonstrator will be built in the green area adopted by Noi Ortadini, aiming to create a favorable food environment that facilitates the choice of healthy and sustainable diets, ultimately benefiting consumers' health and quality of life.

The methodology for our ongoing co-design project consists of four main 'horizontal' phases: a) research (data collection, exploration of the area with an interdisciplinary University team, interviews, case study identification, analysis); b) association dialogue (creation of a common framework, development of strategy for social engagement); c) community engagement (public discussions, walkabouts, lectures);

d) project (development of an overall urban strategy and local scenarios). Transparency, communication and coordination are crucial elements of this interdisciplinary process and they ensure its effectiveness. A feedback mechanism among all the actors throughout the process is essential for continuous improvement and refinement of the outcomes.



Fig. 8: Walkabout and co-design session in Noi Ortadini's green area. Photo by Nicla Pisciotta, 2024.

At its core, there is the idea of initiating a process to conceive spaces that connect us to the environment by engaging in a dialogue with the 'living material' through an understanding and acceptance of its natural 'genius' [30]. Architecture becomes this way Agri-ecture.



Fig. 9: Scenario of the demonstrator, exploring the concept of micro-landscape (elaboration by Enrica Gaia Consiglio, 2024).

4. Conclusions

The contribution explores the multifaceted role of UA besides food provisioning, recognizing its wide-ranging benefits across the three pillars of sustainability. Viewed as a crucial component of a city's green infrastructure system, UA can be one of the pathways to achieving SDGs of 2030 UN Agenda.

The analysis of the selected case studies highlights the necessity of a systemic vision, which could be facilitated by the presence of networks, to monitor and support UA practices.

A multidisciplinary research-based approach is guiding us in the creation of a demonstrator as a UA laboratory in Matera. The participatory design has to be seen as a process undertaken through in-depth analysis, acting as a catalyst for expanding and enriching the project itself. Thanks to the involvement of experts from various disciplines, this process becomes 'enzymatic', introducing from time to time, complexity. The architectural drawing, «at once descriptive, synthetic, critical» [31], is the tool to move from complexity to synthesis. In this context, the architect plays the role of a director, orchestrating the various competencies and transforming them into an organized spatial vision, shaping and structuring ideas to make them visible. The role of architecture, as we perceive it, is deeply rooted in the philosophy of Giancarlo De Carlo: contemporary architecture tends to produce objects, while its true purpose is to generate processes. This narrow focus confines architecture to a limited spectrum, exposing it to the risks of subordination and megalomania and leading to social and political irresponsibility. The transformation of the physical environment involves a sequence of events: the decision to create new organized space, resource acquisition, organizational system definition, formal system definition, technological choices, use, management, technical obsolescence, reuse and physical obsolescence. Each of these events is interconnected and their intensity varies according to circumstances and context. Architecture is involved in the entirety of this complex process, as the project it expresses initiates a long-term process with significant consequences [32].

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Bibliographical References

[1] IPCC. Section 4: Near-Term Responses in a Changing Climate. In IPCC, *Climate Change 2023: Synthesis Report. Contribution of Working Groups I, II and III to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change*, Core Writing Team, LEE, H. and ROMERO, J. (eds.). Geneva: IPCC, 2023, pp. 92-115. [Online] Available at: doi.org/10.59327/IPCC/AR6-9789291691647 [Accessed 2 April 2024].

[2] <https://www.footprintnetwork.org> [Accessed 3 April 2024].

[3] <https://population.un.org/dataportal/home> [Accessed 3 April 2024].

[4] EUROPEAN COMMISSION, DIRECTORATE-GENERAL FOR HEALTH AND FOOD SAFETY. *Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions. A Farm to Fork Strategy for a fair, healthy and environmentally-friendly food system*. Brussels, 2020. [Online] Available at: <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:52020DC0381> [Accessed 3 April 2024].

[5] EEA - EUROPEAN ENVIRONMENT AGENCY. *Nature-based solutions in Europe: Policy, knowledge and practice for climate change adaptation and disaster risk reduction*. Luxembourg: Publications Office of the European Union, 2021.

[6] UNITED NATIONS. *Transforming our world: the 2030 Agenda for Sustainable Development*. 2015. [Online] Available at: <https://sdgs.un.org/2030agenda> [Accessed 3 April 2024].

[7] EUROPEAN COMMISSION, SECRETARIAT-GENERAL. *Communication from the Commission to the European Parliament, the European Council, the Council, the European Economic and Social Committee and the Committee of the Regions. The European Green Deal*. Brussels, 2019. [Online] Available at: <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:52019DC0640> [Accessed 5 April 2024].

[8] CARTA, Maurizio. Re-cycling urbanism nell’era circolare. In CARTA, Maurizio, LINO, Barbara (eds.). *Urban Hyper-Metabolism*. Roma: Aracne, 2015, pp. 29-47.

[9] VEOLIA INSTITUTE. *Urban Agriculture: Another Way to Feed Cities*. 2019. [Online] Available at: <https://www.institut.veolia.org/en/nos-publications/la-revue-de-linstitut-facts-reports/urban-agriculture-another-way-feed-cities> [Accessed 5 April 2024].

[10] KOOLHASS, Rem. Junkspace. *October*, 2002, vol. 100, pp. 175-190. [Online] Available at: <http://www.jstor.org/stable/779098> [Accessed 5 April 2024].

[11] BAUMAN, Zygmunt. *Liquid Modernity*. New York: John Wiley and Sons, 2000.

[12] VILJOEN, Andre, BOHN, Katrin. Continuous Productive Urban Landscape (CPUL): Essential Infrastructure and Edible Ornament. *Open House International*, June 2009, vol. 34, n. 2, pp. 50-60. [Online] Available at: doi.org/10.1108/OHI-02-2009-B0006 [Accessed 5 April 2024].

[13] GALLEGO SÁNCHEZ-TORIJA, Jorge. Instalaciones hortícolas. Embelleciendo la ciudad. *Arte y Ciudad - Revista de Investigación*, June 2013, n. 2, pp. 539-557.

[14] LEFEBVRE, Henri. *Le droit à la ville*. Paris: Anthropos, 1968.

[15] URBAN NETWORKS. *El valor del vacío*. Madrid, 2013. [Online] Available at: https://issuu.com/urbannetworks/docs/el_valor_del_vac_o [Accessed 10 April 2024].

[16] TRANCIK, Roger. *Finding Lost Space: Theories of Urban Design*. New York: John Wiley and Sons, 1986.

- [17] ECO, Umberto. *Opera aperta. Forma e indeterminazione nelle poetiche contemporanee*. 10^a ed. Milano: Bompiani, 2016.
- [18] CONSIGLIO, Enrica Gaia. *Recycling through Agri-tecture. Madrid 2030: Future Hybrid Factory in Legazpi*. Master's Degree Thesis, University of Palermo, tutor Renzo Lecardane, 2021.
- [19] MAAS, Winy. Please dream! Interview with the mayor of Madrid Manuela Carmena. *Domus*, May 2019, n. 1035, pp. 546-553.
- [20] <https://www.madrid.es> [Accessed 10 April 2024].
- [21] <https://diario.madrid.es/huertos/programa-municipal-de-huertos-urbanos-comunitarios/> [Accessed 10 April 2024].
- [22] <https://geoportal.madrid.es> [Accessed 10 April 2024].
- [23] <https://ormetorinesi.net> [Accessed 10 April 2024].
- [24] <https://www.istat.it/it/archivio/225505> [Accessed 10 April 2024].
- [25] <https://www.coldiretti.it/economia/covid-tornano-gli-orti-di-guerra-per-4-italiani-su-10> [Accessed 10 April 2024].
- [26] SOMMARIVA, Emanuele, CANESSA, Nicola Valentino, TUCCI, Giorgia. Green action for innovative cities. The new agri-food landscape. *AGATHÓN | International Journal of Architecture, Art and Design*. June 2022, n. 11, pp. 150-161. [Online] Available at: doi.org/10.19229/2464-9309/11132022 [Accessed 10 April 2024].
- [27] <https://www.gazzettaufficiale.it/eli/id/1952/06/18/052U0619/sg> [Accessed 10 April 2024].
- [28] ACITO, Luigi. *Architetture del Novecento. 1900-1970*. Matera: La Stamperia, 2017.
- [29] <https://2023.prizes.new-european-bauhaus.eu> [Accessed 10 April 2024].
- [30] CLÉMENT, Gilles. *Il giardino in movimento*. (Translated by BORIO, Emanuela). 6^aed. Macerata: Quodlibet, 2023. Translation of *Le jardin en mouvement*.
- [31] GHOSN, Rania, JAZAIRY, El Hadi. Vision to save the planet. *Domus*, February 2019, n. 1032, pp. 136-145.
- [32] DE CARLO, Giancarlo. Editoriale. *Spazio e società*, January 1978, n. 1, p. 6.