TRANS-CARBON HABITAT CONFERENCE

LISBON, 2024

PROCEEDINGS

ORDEM DOS ARQUITECTOS
TÉCNICO LISBOA
CiTUA TERRITORY, URBANISM AND ARCHITECTURE
fct Fundação para a Ciência e a Tecnologia
REPÚBLICA PORTUGUESA
CIAUD Centro de Investigação em Arquitetura Urbanismo e Design
ismat INSTITUTO SUPERIOR MANUEL TEIXEIRA GOMES
MAC/CCB

Title
Proceedings of the European Conference on TRANS-CARBON HABITAT

Edited by
Nadir Bonaccorso
Joana Mourão

Design
Marta Nunes

Published by
Ordem dos Arquitectos Portugueses
www.ordemdosarquitectos.org
Travessa do Carvalho, 23
1249-003 Lisboa, Portugal

ISBN
978-972-8897-84-0

DOI
https://doi.org/10.57859/ulisboa-istcitua.000007

1st edition, December 2024
Published in electronic format.

Legal Notice
The Editors and the Publisher are not responsible for the use which might be made of the following information.

Lisbon, Portugal
5-6 December
© 2025 The Editors and the Authors
All rights reserved. No part of this book may be reproduced, stored in a retrieval system, or transmitted, in any form or by any means, without prior written permission from the Publisher.

This work is supported by national funds through FCT – Portuguese Foundation for Science and Technology, I.P., within the research unit CiTUA (10.54499/UIDB/05703/2020) & CIAUD (UIDB/04008/2020 e UIDP/04008/2020).

Scientific Committee

Alessia Allegri
Lisbon School of Architecture, University of Lisbon. [CIAUD]

Alexandra Alegre
Instituto Superior Técnico, Department of Architecture [CITUA]

Alexandra Paio
ISCTE, School of Technology and Architecture [Dinâmia'CET-IUL]

Ana Bordalo
Instituto Superior Manuel Teixeira Gomes, Department of Architecture, Art and Design. [CIAUD]

Cláudia Gaspar
Instituto Superior Manuel Teixeira Gomes, Department of Architecture, Art and Design. [CHAIA]

Joana Mourão
Instituto Superior Técnico, Department of Architecture [CITUA]

Jorge Fernandes
ISISE, Department of Civil Engineering, University of Minho

José Carvalho
Instituto Superior Manuel Teixeira Gomes, Department of Architecture, Art and Design. [CHAIA]

Maria Rita Pais
Lusófona University, Lisbon [CIAUD]

Mariana Pestana
Instituto Superior Técnico, Department of Architecture [CITUA]

Nadir Bonaccorso
Instituto Superior Manuel Teixeira Gomes, Department of Architecture, Art and Design. [CIAUD]

Patrícia Lourenço
Instituto Superior Técnico, Department of Architecture [CITUA]

Rui Florentino
Portucalense University, Department of Architecture and Multimedia Gallaecia. [CIAUD]

Vasco Rato
ISCTE, School of Technology and Architecture [VitruviusFabLab-IUL]

Vítor Alves
Instituto Superior Manuel Teixeira Gomes, Department of Architecture, Art and Design. [CEAA]

Organizing Team
Joana Mourão
Nadir Bonaccorso

Clélia Fernandes
Marta Rodrigues da Costa
Maria Vitória Capote

We acknowledge the active participation of Rachel Armstrong, who has enhanced the conference by working with us to create an accelerator forum for advancing trans-carbon habitat contributions in both academia and practice.

CONTENTS

9 Opening
Avelino Oliveira

11 Editorial

15 Architectural Evolution and Climate Change: A Critical Perspective of Human Development, Towards Future Solutions
Rachel Armstrong

Part 1: Low Entropy Habitat

33 1. The cultural challenge for an ecological and systemic urban transition.
Cynthia Echave

39 2. (Re)defining territorial boundaries: A theoretical framework for the regeneration of estuarine brownfields within the context of urban circularity
Márcio de Campos

55 3. Experimentations in Urban Voids: Transdisciplinary Spatial Practices in Terrain Vague Spaces
Lorenzo Stefano Iannizzotto, Raquel Lopes

71 4. Rethinking the city: reflections through design teaching at the Lisbon School of Architecture
Hugo L. Farias, Guilherme R. Maia

85 5. Fostering Climate Resilience and Environmental Education through Regenerative Design: a collaborative and sustainable approach
Alexandra Alegre, Cássio de Lucena, Luís Fernandes, Patrícia Lourenço

Part 2: Regenerative Buildings and Materials

105 6. As Found: Adapt, Repair, Rebuild... Conservation and Reuse of Buildings and Materials for Low-Energy Urban Regeneration
Studio Hammer

111 7. From Form to Waste and *vice versa*
Stefanos Antoniadis

125 8. RHAM – The computational emulator of the construction process of a typical Western Algarve house
Nuno Rio, Filipe Coutinho Quaresma

139 9. Lime Adobe production - from the past to the future
Ana Antunes, Ana Velosa

163 10. The contribution of bio-based materials for resilient thermal comfort and regenerative architecture
Livia Cosentino, Jorge Fernandes, Ricardo Mateus

181 11. Analyzing the Impacts of Urban Planning Parameters on Environmental Comfort in Buildings: A Case Study of Timóteo, MG, Brasil
Kênia Alves de Paula, Fábio Azevedo Vasconcellos, Cássio de Lucena, Cauan Hermógenes Abreu, Ludmila Pereira Lage, Samuel Gomes Maciel Silva

3.
EXPERIMENTATIONS IN URBAN VOIDS: TRANSDISCIPLINARY SPATIAL PRACTICES IN TERRAIN VAGUE SPACES

Experimentations in Urban Voids: Transdisciplinary Spatial Practices in Terrain Vague Spaces

Lorenzo Stefano Iannizzotto, Raquel Lopes
DINÂMIA'CET-Iscte, ISCTE-University Institute of Lisbon.
lorenzo_stefano_iannizzotto@iscte-iul.pt | Raquel_Gameiro@iscte-iul.pt

Abstract
In a world with an increasing urban population and rapid urbanization processes, cities will have to face important challenges, achieving goals for more democratic, greener cities, through the creation of new practices in urban design and decision-making. This paper is combining the potential of two ongoing PhD projects - one researching Terrain Vague, the other transdisciplinary approaches for urban public spaces development – and how together they can contribute to the research on regenerative practices and ecological transition in architecture and urbanism.

The expectant and informal nature of Terrain Vague spaces allows the experimentation of transdisciplinary methodologies for urban development and new spatial typologies for public spaces. Over the past two decades, emerging and innovative projects have been observed in Terrain Vague spaces, which aim to preserve the essence of these areas.

Mapping and analysing urban practices in which ecological aspects take on a prominent role is crucial, as they can serve as experimental examples, offering lessons and strategies that can be generalized and implemented in the broader context of the urban ecological transition.

The paper is outlying an analysis framework for transdisciplinary projects in Terrain Vague spaces and structured in five parts: (1) Introduction; (2) Theoretical background; (3) Towards an analysis framework; (4) Conclusions. The output of the paper, an analysis framework, is developed with criteria derived from the literature review and an ongoing comparative study of two cases, chosen in the Portuguese context, with different funding and temporal and spatial scales. The paper disseminates the initial phases of the development of the analysis framework, exposing the selection criteria for the cases, the criteria for the parameters of analysis, combining quantitative and qualitative data, and a first approach to a graphical representation of the analysis.

Keywords: Ecological Transition; Transdisciplinary Approaches; Terrain Vague; Regenerative Practices.

Introduction

In a world with an increasing urban population and rapid urbanization processes, cities will have to face important challenges, achieving goals for more democratic and greener cities, through the creation of new practices and citizen participation in urban design and decision-making.

In most cities, there are spaces that, despite often going unnoticed, have unique characteristics that can offer opportunities to address urban challenges or inspire innovative solutions. These spaces are commonly referred to as Urban Vacant Land, Urban Voids, or Terrain Vague—urban open spaces in a state of abandonment or indefinite suspension, lacking any official productive function. In recent years, their unique characteristics and potential have attracted growing academic interest.

However, due to their transient and unstable nature, these spaces are particularly fragile, and it is extremely easy for their value and potential to disappear because of aggressive and radical interventions that do not consider their essence and importance to maintain natural spaces within urban contexts. These spaces require a new type of approaches. Their expectant and informal nature allows the experimentation of new methodologies for urban design and new spatial typologies that are suitable for the creation of urban public spaces with a high impact in the surrounding social structures and ecological diversity within urban spaces.

Due to the reduced constraints of time for project development and a low level of pressure for their development while expectant, we argue that Terrain Vague are optimal for testing transdisciplinary approaches in spatial practices. Transdisciplinarity is characterized by a hybrid nature and an impact-oriented recursive research and practice to solve complex challenges of the lifeworld. Over the past two decades, emerging and innovative projects have been observed in terrain vague spaces, which, while sometimes applying urban design and formal interventions, mostly aim to preserve the essence of these areas. Due to their transdisciplinary nature of Terrain Vague, they allow for experimental spatial practices, developing new models of public space. We believe that mapping and analysing these practices is crucial, as they can serve as experimental and innovative examples — small oasis of resilient practices and pieces of regenerative city fabric. In these spaces, ecological aspects take on a prominent role, offering lessons and strategies that can be generalized and implemented in the broader context of regenerative practices and ecological transition in architecture and urbanism.

This paper is combining the potential of two ongoing PhD projects - one researching Terrain Vague; the other researching transdisciplinary approaches for urban public spaces development - by exploring the application of transdisciplinary approaches in projects in terrain vague spaces. Furthermore, it proposes a discussion on their potential contribution to the research on regenerative

practices in architecture and urbanism and an ecological transition in urban spaces. The presented output is an analysis framework, developed with criteria derived from the literature review and an ongoing comparative study of two cases, chosen in the Portuguese context, with different funding, temporal and spatial scales. The paper disseminates the initial phases of the development of the analysis framework, exposing the selection criteria for the cases and the parameters of analysis, and a first approach to a graphical representation of the analysis (figure 1).



Figure 1.
High Line after intervention
© David Berkowitz from New York, NY, USA, CC BY 2.0 <https://creativecommons.org/licenses/by/2.0>, via Wikimedia Commons

Background

Terrain vague

Since the 1960s, the acceleration of urbanization processes—becoming increasingly rapid and invasive—combined with the lack of adequate large-scale planning, has resulted in spatial remnants. These nearly invisible, ambiguous, and hard-to-define spaces can be found in all contemporary cities. Various authors have provided different definitions to describe this phenomenon or to propose their own interpretation: Terrain Vague, Vacant Land, Urban Voids, are abandoned, underdeveloped, and underused urban spaces with no specific or productive function (Solà-Morales, 1995; Careri, 2066; Kamvasinou, 2014; Lopez-Pineiro, 2020). Despite their abandoned state, or perhaps because of it, these spaces have immense potential to address future urban challenges and ecological transition. This potential is more suitably achieved through interventions that are based in the reformulation of social and spatial uses and programming, while keeping the construction minimal.

Indeed, terrain vague spaces are used daily by various communities, through appropriations and informal uses, are rich in biodiversity and perform important ecological functions, revealing a rare meeting of social and ecological interests (Gandy, 2003; Clément, 2022). Furthermore, due to their condition of waiting and suspension, as well as their legal status, these spaces remain outside the city's productive and profit-driven cycle, offering opportunities for alternative uses, for two different reasons. First, their state of temporary abandonment and non-productivity makes them available for ephemeral or temporary activities and projects, such as tactical urbanism (Hou, 2010). This is due both to the lower property value and the reduced immediate profit potential, as well as the absence of any official function or activity, which facilitates simpler and faster interventions in this space. Moreover, for the same reasons, these spaces are often reclaimed by feral nature, spontaneous vegetation, and various species, while also frequently undergoing informal appropriations by different communities. Due to these unique characteristics, in recent years, such spaces have become the focus of experimental and innovative projects, actions, and interventions (Bertrando & Imma, 2021). These initiatives aim to introduce formal design strategies while simultaneously respecting and preserving the fragile, spontaneous nature of these spaces.

One of the earliest and most iconic interventions of this kind is the *High Line* in New York (figure 1). Since then, numerous similar projects have been designed and implemented—particularly parks and green spaces conceived by landscape architects, who were among the first to recognize the potential of spontaneous nature (Kamvasinou, 2006). Projects such as Tempelhofer Feld, Parc Henri Matisse and Parc aux Angéliques are emblematic in this regard.

Over time, a growing variety of initiatives have emerged in these spaces, including community urban gardens, like for example *Agrocitè* (figure 2), and experimental urban design projects. In this context, several curated collections were published with the attempt of collecting practices in such spaces (Bonfantini & Forino, 2021; Mariani & Barron, 2014; Zetti & Rossi, 2018).

Transdisciplinary Approaches in Spatial Practices

Transdisciplinarity is characterized by a hybrid nature, merging different knowledge fields and practices in a single process, to engage with complex societal problems. While highly complex, requiring the expertise and knowledge of different fields, transdisciplinary processes aim to contribute to solve specific problems with impact-oriented methodologies and projects (Klein *et al*., 2001; Lawrence & Després, 2004; Stokols, 2006; Burry, 2012; Bernstein, 2015). More than enlarging the body of theoretical knowledge in a single field, transdisciplinarity is actively used to solve problems of the real-world life. To do so, the methodology proposes a strong emphasis in the question framing, to enable

creative and pertinent questions for the specific problem to solve, and in redefining it through different disciplines and actors. The reassessment enables an iterative open-end methodology, that is distributing power among all actors involved (Burry, 2012; Lawrence & Després, 2004). In spatial and urban design, mapping and voicing different concerns, both human and more-than-human, can lead practices and projects to cross social stratification and the anthropocentrism of most urban planning. When applied to spatial practices and urban design, Transdisciplinary Approaches are building conditions for projects that do not prioritise construction, but ecological, political, social, and technological interventions for urban public spaces (Signore & Riether, 2018; Vidler, 2004). By adopting approaches and methodologies that, more than constructing, enhance and potentialize the already existent social and ecological relations in urban voids and their surroundings (Melendez *et al*., 2021; Dodd, 2020; Signore & Riether, 2018), it is possible to offer alternative and regenerative models of public spaces and developing diverse, wilder and relational urban landscapes (Doucet & Janssens, 2011; Woiseth & Nilsson, 2011).



Figure 2.
Agrocité, R-Urban, 2013.
© Ion Antim, CC BY-SA 4.0 <https://creativecommons.org/licenses/by-sa/4.0>, via Wikimedia Commons

Towards an Analysis Framework

Methodology — Selection and analysis criteria

The primary objective of this article is to develop an initial attempt at an analysis framework for transdisciplinary projects implemented in terrain vague spaces. Although this framework represents only a preliminary effort, its proposal is significant, as much remains to be done in systematically organizing innovative practices and projects

in terrain vague spaces. Additionally, there is a gap in academic literature regarding transdisciplinary public space projects in such contexts. Methodologically, the article follows a structured approach:

i. Defining the project selection criteria;
ii. Defining the analytical criteria;
iii. Testing the framework through two selected observed experiences (Observed Experiences – URBiNAT and LABIC Barreiro Velho)

(i) Defining the project selection criteria:

The project selection criteria are based on the theoretical concepts outlined in the background section. In summary, the selected projects must represent transdisciplinary practices implemented in terrain vague spaces.

Selection criteria for projects: hybrid; recursive; solving lifeworld problems; enhancing social and ecological aspects; applying soft practices, low carbon solutions; developed in abandoned, underdeveloped and underused urban spaces.

The case studies were chosen based on their alignment with the analysis criteria and their implementation in Portugal. These projects were primarily selected to develop and test the draft analytical framework, and as such, this selection should not be considered comprehensive or exhaustive. Additionally, the decision to limit the selection to the Portuguese context was made for practical reasons and due to the authors' greater familiarity with this setting. From a data collection methodology perspective, although no direct interviews or on-site data collection were conducted, it is important to highlight that both authors had direct experience with the projects. One of the authors participated in the closing workshop organized by the URBiNAT network in Coimbra, where they had the opportunity to learn about and test its methodology. The other author was directly involved in the last phase of the project when she joined the project as a team member. In summary, this article draws on information from published texts and reports, as well as insights gained through the authors' direct experiences with the selected projects.

(ii) Defining the analytical criteria:

Following project selection, the analytical criteria were defined, based on the following questions, which emerged from the intersection of the theoretical framework and the study of the selected case studies:

1. How did the involvement of different actors shape the problem framing?
2. How did they contribute to project development?
3. What urban functions and lanscapes emerged?

4. Are Terrain Vague spaces optimal for testing transdisciplinary approaches and creating trans-spaces?

The analytical criteria were designed to adequately address these research questions while enabling a qualitative and quantitative comparison between the projects. The definition of these criteria, in alignment with the theoretical framework, led to the development of an analytical framework.

Analysis criteria: project scale and duration; problem framing and goals; participation level and actors involved; social and ecological aims; solution vs existent.

To assess the utility, functionality, and feasibility of the analysis framework, an initial test was conducted using the two selected case studies. Figure 3 presents both the analytical framework and the results of this initial test. This test of the analysis graphical representation includes the analysis parameters and their correlations, illustrating possible relationships, varying impacts, and influences of the criteria on the conception, design, and implementation of the projects.

(iii) Testing the framework through two observed experiences:
Qualitative and quantitave description and analysis of two selected projects.

Observed Experiences — URBiNAT and LABIC Barreiro Velho

URBiNAT, Porto

URBiNAT (2018–2024) was a Horizon 2020 project with the aim of creating urban green corridors through a novel transdisciplinary methodology, focusing on regenerating underserved urban areas through nature-based solutions (NBS) and participatory co-creation processes (Moniz, 2021; Nunes, Björner, and Hilding-Hamann 2021). The initiative involved partners from public institutions, universities, and private entities across seven European cities—Porto, Nantes, Brussels, Høje Taastrup, Siena, Sofia, and Nova Gorica—aiming to bridge academic research, local authorities, associations with real-world implementation.

The key theoretical concept developed during the project for the planned interventions was the “Healthy Corridor,” a network of green public spaces connecting fragmented neighborhoods, particularly social housing areas (figure 3). This concept seeks to unite and integrate environmental and ecological interests, through the design and implementation of the green corridor with NBS, and social objectives through the active participation of residents in all project phases, from diagnosis, design, implementation, to maintenance and evaluation. These corridors, co-designed with local communities, integrated diverse NBS to enhance urban and social cohesion. The project operated at both local and international scales, involving municipalities, institutions, and residents while fostering cross-city collaboration through shared methodologies and

toolkits. Throughout the research project, significant attention was given to the development of a replicable methodology.

In Porto, the Campanhã district was selected due to its isolation, lack of infrastructure, and prevalence of terrain vague—abandoned or underutilized urban spaces. These spaces, shaped by fragmented urbanization, were identified as key intervention sites for their social and ecological potential, already in the diagnosis phase by the residents and local community. Initial mapping and ownership analysis helped prioritize municipal lands for intervention, leading to co-designed solutions that reflected community needs, including preserving historical ruins with cultural significance. On February 20, 2024, the Porto Healthy Corridor was officially inaugurated, showcasing how collaborative planning and community participation can drive meaningful urban transformation, setting a precedent for future projects across Europe.

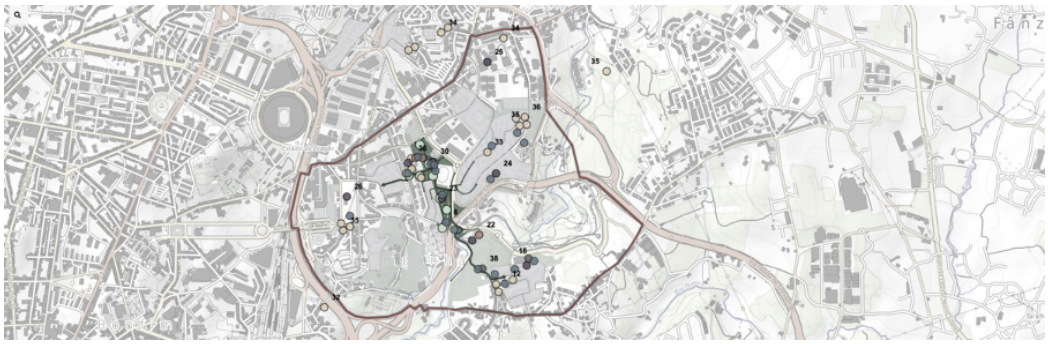


Figure 3.
Interactive map of the Oporto Healthy Corridor. https://urbinat.ces.uc.pt/cities/porto/

LABIC, Barreiro Velho

LABIC Barreiro Velho - Laboratório de Inovação Comunitária (2021–2022) was a Bairros Saudáveis project. The program was created and funded by the Portuguese Ministry of the Environment during the COVID pandemic, to strengthen health and quality of life in local communities. The aim of LABIC was to promote, at the neighborhood scale, citizen participation, collective learning and collaborative production of projects to improve community relations and reverse the abandonment and degradation of public spaces (Mota *et al.*, 2022). The initiative involved partners from academia, local associations and collectives and the Municipality.

The key strategy of LABIC Barreiro Velho was the implementation of a Citizen's Laboratory for community innovation within a physical space in the neighborhood. The Laboratory created conditions to open dialogue within the local community, hosting and mediating debate sessions, collective mapping, and tactical actions to prototype possibilities on how to improve the quality of life in the neighborhood. The project was developed in five phases: (1) Mapping and identifying the community; (2) Connecting, motivating, and mobilizing the community; (3) Enabling and empowering the community; (4) Potentiate co-governance and (5) Consolidate and Celebrate. The first phase intended

to identify immaterial and collective characteristics of Barreiro velho, as well as mapping expectant spaces, such as squares and urban voids, to detect ways to counteract the lack of care and investment upon public spaces by the municipality. The mapping releaved a great potential in the neglected neighboorhoud: the area of the urban voids was equivalent to a soccer field, offering ant opportunity for the co-creation, development and co-governance of public spaces that meet the interests and needs of the inhabitants. The project acted in the urban voids in three different ways: organising communitary cleaning sessions on the unwalled voids, contacting owners to discuss the possibility of temporary occupation of the spaces. During the project, two voids were lend to the community, of which one is still thriving garden, nurtured by an organised group of the community (figure 4).



Figure 4.
Collective Terrain Vague cleaning action and Terrain Vague with community garden. https://www.flickr.com/photos/labicbarreiro/albums/, Ana Carolina Cardoso ©

Results of the Analysis

The informal nature of Terrain Vague spaces allows the appropriation of such spaces by the local communities and triggers organized processes of occupation and development through informal urban design and light approaches.

The expectant nature of Terrain Vague spaces also indicts the possibility of intervening with slower processes and experimental methodologies, due to the reduced constraints of time for project development and a low level of pressure for their development and outcomes while they are expectant voids.

The rich ecological and social life and potential of Terrain Vague spaces and their contexts creates an interesting setting for engaging transdisciplinary approaches in urban design, for two reasons: the informal nature of the spaces allows experimenting with alternative methodologies for project and urban design; the complexity of interests and potentials of Terrain Vague require multi-layered projects and the application different knowledges throughout the processes, from the question-framing phase to the project implementation.

The application of transdisciplinary approaches in URBiNAT and LABIC gave agency power to a multiplicity of actors, transforming the territories through collectively mapped and discussed needs. Most interventions could be performed through minimal interventions, fulfilling the already existent potential, and contributing to resilient urban design and practice. In these cases, using transdisciplinary approaches also paved new ways to think and conceive spaces that enhance existent ecosystems, promoting urban resilience, both in small and big scale projects.

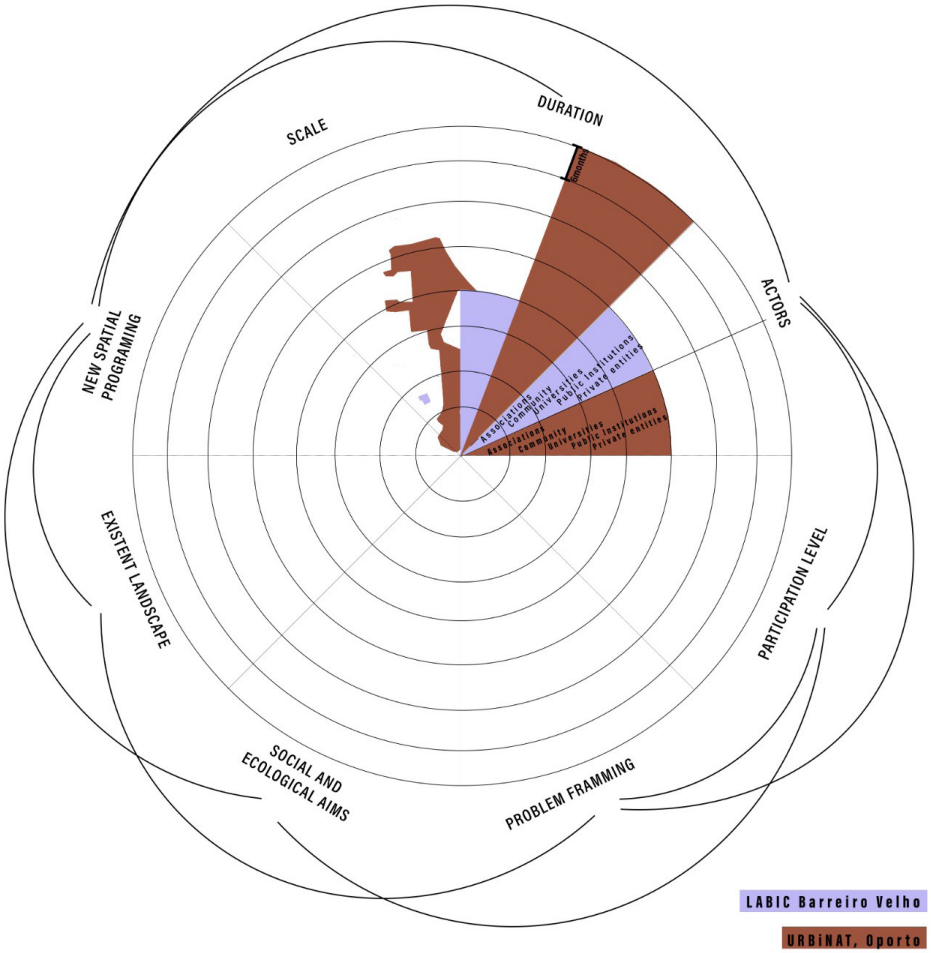


Figure 5.
Prototype of the analysis framework graphics.
Authors

Discussion and conclusions

This article should be regarded as an initial attempt to address a gap identified in the literature—namely, the absence of a systematization and categorization of innovative practices in terrain vague spaces, as well as their connection to theoretical frameworks.

The observed projects and the analysis primarily serve the purpose of developing the proposed framework. Moving forward, the framework will need to be tested and validated through comprehensive analysis and the inclusion of a broader range of case studies.

Thus, the case study analysis presented here should be considered merely preliminary, intended as a first step toward testing the framework.

The development of the analysis framework applied simultaneously and iteratively: literature review, and the selection and analysis of two observed experiences with contrasting funding, temporal and spatial scales.

Performing the analysis of the observed experiences simultaneously as developing the analysis framework proved to be very insightful for its development and refinement. The analysis and comparison between the two observed experiences, supported in the underlying of variables and parameters that should be considered when: (1) analysing projects with possibly different methodologies and outputs; (2) rely mostly on qualitative data for their description and impact measurement.

Great part of the characteristics of the analysed projects are qualitative, (e.g. participation level; social and ecological aims; new landscapes), presenting an interesting challenge, that requires the combination of quantitative and qualitative aspects in a comparative study. The same criteria are applied to the measurement of the impact of the projects, in which the inhabitants and users of the spaces are an important aspect for the evaluating, revealing the importance of empirical evaluation. Observing experiences with asymmetric funding, temporal and spatial scales, also enriched the development of the analysis framework, highlighting the challenges of performing a comparative analysis and impact evaluation of projects with very different scales.

The preliminary results of this research—namely, the intersection of the theoretical concepts of terrain vague and transdisciplinarity, combined with a comparison of concrete projects—have generated valuable insights into the potential of these practices and initiatives. The proposed analytical framework represents an initial attempt at systematizing such practices, aiming to understand their potential, strategies, and tangible outcomes.

This article serves as a starting point for further reflection and future research. We hope that the proposed framework will be tested, refined, and receive constructive feedback, ultimately contributing to both theoretical and practical knowledge in this field. With that purpose. it is essential to expand and refine data collection through interviews and on-site visits. This approach aims to gain a deeper understanding of the functioning and nuances of these projects, which involve highly complex and dynamic social processes. We believe that a broader dissemination of these projects is crucial for shaping a future city that is pluralistic, inclusive, and sustainable.

Acknowledgments

This work was supported by FCT – Fundação para a Ciência e Tecnologia, I.P. by project reference 2022.11783.BD and DOI identifier https://doi.org/10.54499/2022.11783.BD, and 2023.01959.BD and DOI identifier https://doi.org/10.54499/2023.01959.BD. The authors sincerely thank DINÂMIA'CET-Iscte - Centre for Socioeconomic and Territorial Studies for supporting the author's research activities. In addition, the authors would like to thank Carolina Cardoso and Moisés Rosa for their incredible effort in developing the interesting project of LABIC Barreiro Velho and providing useful information, Professor Gonçalo Canto Moniz for developing a groundbreaking project in the Portuguese context, URBINAT, and giving permission to incorporate images of their project in this publication, and Professor Alexandra Paio for supervising our PhD research.

References

Bernstein, Jay. 2015. "Transdisciplinarity: A Review of its Origins, Development, and Current Issues". Journal of Research Practice, 11, (1): 1-20. Article R1. Retrieved from http://jrp.icaap.org/index.php/jrp/article/view/510/412

Bertrando, Bonfantini, & Forino, Imma. 2021. Urban Interstices in Italy, Design Experiences. Siracusa: LetteraVentidue.

Burry, Mark. 2020. "Urban Futures: Designing the digitalized city". Architectural Design 90 (03).

Careri, Francesco. 2006. Walkscapes. Camminare Come Pratica Estetica. Milano: Einaudi.

Cardoso, Ana, Mota, José., & Ataíde, Alexandra. 2022. "Evolução das redes locais de solidariedade em Portugal: Análise em tempos de pandemia e perspetivas para o futuro". In El apoyo mutuo en tiempos de crisis: La solidaridad ciudadana durante la pandemia Covid-19, edited by Nel·lo, Oriol, Blanco, Ismael & Gomà, Richard, 193-224. CLACSO. http://hdl.handle.net/10071/28763

Clément, Gilles. 2022. Manifesto of the Third Landscape. Halles: Trans Europe.

Dodd, Melanie. 2020. Spatial Practices. Modes of Action and Engagement with the City. London: Routledge.

Doucet, Isabelle and Nel Janssens, Nel. 2011. Transdisciplinary Knowledge Production in Architecture and Urbanism: Towards hybrid modes of inquiry. Manchester: Springer.

Gandy, Matthew. 20023. “Landscapes of Deliquescence in Michelangelo Antonioni’s Red Desert.” Transactions of the Institute of British Geographers 28, no. 2: 218–37. https://doi.org/10.1111/1475-5661.00088

Hou, J. (Ed.). 2010. Insurgent Public Space: Guerrilla Urbanism and the Remaking of Contemporary Cities. Routledge. https://doi.org/10.4324/9780203093009

Kamvasinou, K. 2006. Vague parks: The politics of the late twenti-eth-century urban landscapes. *Architectural Research Quarterly*, 10 (3-4), 255–262.Kamvasinou, Krystallia and Marion Roberts. 2014. “Interim Spaces: Vacant Land, Creativity and Innovation in the Context of Uncertainty.” In Terrain Vague: Interstices at the Edge of the Pale, edited by Manuela Mariani and Patrick Barron, 187–200. New York: Routledge.

Klein, Julie Thompson., and Walter Grossenbacher-Mansuy, Rudolf Häberli, Alain Bill, Roland W. Scholz, Myrtha Welti. 2001. Transdisciplinarity: Joint Problem Solving Among Science, Technology, and Society. Basel: Birkhauser.

Lawrence, Roderick, and Carole Després. 2004. “Futures of Transdisciplinarity”. Futures 36 (4), pp. 397-405. https://doi.org/10.1016/j.futures.2003.10.005

Lopez-Pineiro, Sergio. 2020. A Glossary of Urban Voids. Berlin: Jovis.

Melendez, Frank., Diniz, Nancy. & Signore, Marcella del. 2021. “Data, Matter, Design. Strategies in Computational Design”. London: Routledge.

Moniz, Gonçalo Canto, ed. 2021. URBiNAT – D4.2 Healthy Corridor Concept. Urbinat. Coimbra: CES.

Nunes, Nathalie, Emma Björner, and Knud Erik Hilding-Hamann. 2021. “Guidelines for Citizen Engagement and the Co-Creation of Nature-Based Solutions: Living Knowledge in the URBiNAT Project”. Sustainability (Switzerland) 13 (23). https://doi.org/10.3390/su132313378.

Signore, Marcella del & Riether, Gernot. 2020. “Urban Machines: Public Space in Digital Culture”.Barcelona: LISTLAB.

Solà-Morales, Ignasi de. 1995. “Terrain Vague.” In Anyplace, Anyone, edited by Cynthia Davidson, 118–23. Cambridge, MA: MIT Press

Stokols, Daniel. 2006. “Toward a Science of Transdisciplinary Action Research”. American Journal of Community Psychology 38 (1-2), 63-77. https://doi.org/10.1007/s10464-006-9060-5

Vidler, Anthony. 2004. “Architecture’s Expanded Field”. Artforum 42(8), 142-147.

Woiseth, Halila Dunin-., and Fredik Nilsson. 2011. Building (Trans) Disciplinary Architecture Research – Introducing Mode 1 and mode 2 to Design Practitioners. IN I. Doucet & N. Janssens Transdisciplinary Knowledge Production in Architecture and Urbanism. Urban and Landscape Perspectives (79-96). Manchester, United Kingdom: Springer. https://doi.org/10.1007/978-94-007-0104-5_6

Zetti, I., & Rossi, M. 2018. In mezzo alle cose: Città e spazi interclusi. Vol. A. Dipartimento di Architettura Università degli Studi di Firenze.

Biographies

Lorenzo Stefano Iannizzotto (Catania, 1994) is architect, PhD student and researcher at DINÂMIA'CET-Iscte with FCT funded research "THE CARTOGRAPHY OF THE IN-BETWEEN: Rethinking Urban Voids Approach for New Urban Challenges" and PhD visiting scholar at University of Westminster, London and Florence, Italy. He completed a master's degree at the Faculty of Architecture of the University of Florence in 2021 and his thesis with the title "Construir Entre" was published in 2023. In 2018 and 2021, he worked as architect at Ventura Trindade Arquitectos (Lisbon) and he worked in the research project "SizaATLAS. Filling the Gaps for World Heritage". In 2021 he won an honourable mention in the competition Un-locking cities. New scenarios for living, and in 2022 he worked in the research project "SizaATLAS. Filling the Gaps for World Heritage".

CIÊNCIAVITAE: https://www.cienciavitae.pt/portal/B317-C050-4FBB

Raquel Gameiro Lopes graduated in 2020 with the master's dissertation 'The City as a Political Tool - The Uses of Public Space'. She is an architect, researcher at DINÂMIA'CET – ISCTE-IUL and PhD student at ISCTE-IUL, Lisbon, with the FCT funded research "Architecture Interplay – Emergent Urban Public Spaces in Transdisciplinary Practices". The project researches the conditions and methodologies that enable a greater diversity of typologies and models of urban public spaces in the Iberian Peninsula. The scope is focusing on transdisciplinarity and performative and regenerative architecture, and urban devices.

CIÊNCIAVITAE: https://www.cienciavitae.pt/portal/en/341C-250C-F891