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Rethinking the In-Between: Designing with a socio-ecological approach to activate the potential of *Terrain Vague* spaces

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Rapid and uncontrolled processes of urbanization expanded cities boundaries and generated a new type of space that can offer rare opportunities. These *Terrain Vague* spaces are abandoned and open spaces where urban, rural and wild dimensions mingle. They could play a significant role in addressing urgent urban socio-ecological challenges related to sustainable, resilient and inclusive development. These spaces have great value and potential as rare intersections of social and ecological interests. Despite their value, these spaces are constantly at risk of disappearing due to massive urban development pressures and the perception that they are problems to be solved rather than valued. To harness the enormous potential of *Terrain Vague*, a new approach is necessary. This paper aims to describe a new social-ecological approach that amplifies and activates the potential of *Terrain Vague* spaces, outlining principles derived from theory and academic literature, and verifying the emergence of projects in line with these principles. For this purpose, nine projects were chosen as case studies, with the aim of demonstrating the concrete implementation of theoretical principles to make an initial attempt at systematizing these projects, and finally, to identify some of the possible strategies implemented in the development of these specific cases.

Keywords: *Terrain Vague*, urban voids, urban vacant land, innovative practices, urban design

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Introduction

Currently, cities around the world are facing significant and urgent challenges in advancing sustainable, resilient, and inclusive development. These challenges encompass both social and ecological factors, which are interconnected. Some examples can be the for instance growing demand for: green spaces accessible to everyone, increased quality of urban life and spatial justice, space for local activities or urban agriculture, increased urban biodiversity and environmental functionality (including rainwater absorption), environmental quality, and ecosystem services.

In this context, *Terrain Vague* (Figure 1)—i.e. unbuilt and abandoned hybrid open spaces without a specific or productive function where urban, rural and wild dimensions mingle (Solà-Morales, 1995)—are valuable both for the roles that they already play today, and for their considerable future potential (Lévesque, 2001). *Terrain Vague* spaces offer a rare intersection of ecological and social interests and possibilities. They emerge as valuable opportunities for rethinking contemporary city planning, serve as ideal places for the growth of certain forms of resistance, and potentially function as spaces that open alternative ways of experiencing the city (Lévesque, 1999).



***Figure 1**. Terrain Vague in Lisbon. Source: the authors*

Despite the benefits outlined, these spaces are constantly at risk of disappearing due to intensive building pressure in cities across the world, and because they are conceived as empty, worthless spaces—problems to be solved. As such, their qualities and values are erased or reduced, due to a functionalist or merely productive approach to design. As Solà-

Morales (1995) pointed out in the definition above, a traditional functionalist approach does not work in these spaces as it erases (or drastically reduces) their value and qualities, diminishes their potential, alters their essence, and is not able to fully account for their potential.

In this sense, the foundational text defining the concept of *Terrain Vague* remains not only relevant and significant to the topic at hand, but also crucial for the central question raised regarding how we approach these spaces: "How can architecture act in *Terrain Vague* without becoming an aggressive instrument of power and abstract reason? Undoubtedly, through attention to continuity: not the continuity of the planned, efficient, and legitimated city, but of the flows, the energies, the rhythms established by the passing of time and the loss of limits" (Solà-Morales, 1995, p. 123).

Once often conceived as a problem to be solved and underestimated as mere "empty" spaces, we believe that in the coming years the debate on the potential and interventions in *Terrain Vague* spaces will become an important and crucial issue for urban planning and research. Several reasons support this claim.

First, due to the expansion of cities and the urbanization of territory in many countries, it is no longer possible to delegate certain biological, ecological, and social functions to other areas outside the city. The importance of making cities more sustainable, resilient, and even regenerative is emphasized not only by numerous scholars, but also by European and global agendas and policies (such as the Sustainable Development Goals). However, given the high density of construction and the extensive impermeabilization of urban land, as well as the highly technologized nature of infrastructure, this transition can be particularly costly and challenging.

Moreover, there is a growing demand for improving urban quality of life: more accessible green spaces, greater biodiversity, and achieve spatial and environmental justice. In this sense—and particularly considering that urban land, and especially permeable urban land, is not only a finite resource but also an extremely scarce one—*Terrain Vague* spaces represent a unique opportunity to address these challenges and to help solve some of these issues.

In fact, under conditions of speculative pressure and ongoing construction, *Terrain Vague* spaces are an exceptionally rare resource, of immense value, and accessible even in peripheral areas. A substantial body of scientific literature demonstrates and enumerates the significant benefits, functions, and value these spaces provide—often at little to no cost (Brighenti, 2013; Clément 2022; Gandy, 2022b; Kamvasinou and Roberts, 2014; Mariani & Barron, 2014; Lopez-Pineiro, 2020; Phelps and Silva, 2018).

Thus, the research questions underpinning this article include: How is it possible to intervene and design in *Terrain Vague* spaces without erasing their qualities and value? How can we transition from a state of abandonment, informality, and spontaneity to a planning or project-driven approach that also manages to preserve some of the characteristics and qualities of these spaces, maintaining their value and activating their full potential?

This article seeks to address the current gap in the literature between theory and practice by connecting principles concerning the potential benefit of *Terrain Vague* spaces—drawn from the extensive scholarly debate on the subject—with a series of formal projects and practices that aim to preserve and enhance that potential. There is, in fact, a rich and comprehensive body of academic literature describing the benefits and value of *Terrain Vague* spaces, spanning a wide range of disciplines—from geography and biology to sociology. At the same

time, there are innovative projects and practices that, through new approaches, seek to enhance the potential of these spaces. However, a bi-directional gap between these two dimensions can be identified: only limited academic literature addresses how to approach these spaces in practice, while only few designers explicitly draw on scientific evidence grounded in academic theory. This paper is an initial, exploratory attempt to overcome that gap. In this regard, it is worth noting that recent and noteworthy attempts have been made to begin addressing this gap, resulting in highly relevant publications: *Urban Interstices in Italy: Design Experiences* (Bonfantini & Forino, 2021) and *Disclosing Interstices: Open-ended Design Transformation of Urban Leftover Spaces* (Luo, 2021).

To address this aim, this article offers the following: a brief theoretical introduction to the object of study; an outline of guiding principles for a new approach to *Terrain Vague* spaces, based on existing literature, followed by a synthesis of the values associated with such spaces; and a concise description of nine formal projects implemented in these areas. These projects aim to preserve the inherent value of *Terrain Vague* spaces and align with the theoretical principles outlined, demonstrating various possible practical applications. Finally, as a preliminary outcome, the article proposes a set of indicative strategies—emerging from the case studies presented—which serve as a link between theoretical principles and project implementation.

Terrain Vague: a theoretical overview

Starting in the 1960s, a new type of urban space began to emerge in cities, shaped by the convergence of various processes and factors: rapid and uncontrolled urbanization, the cyclical alternation of sprawling and shrinking dynamics, and the inability of traditional planning tools to adequately capture the scale and complexity of these new phenomena.

As an overview, these new types of spaces are abandoned, vacant, and undeveloped urban open spaces (Figure 1)—often invisible and varying in scale—where emptiness prevails over the built environment and spontaneous nature prevails over the planned. They are characterized by their state of waiting, abandonment, marginality, and underutilization. These spaces are ambiguous, often lacking clear boundaries or thresholds, and serve as transitional zones where urban and rural dimensions and activities blend, overlap, and hybridize.

Due to the novelty of the phenomenon and the inherent ambiguity of these spaces—first observed and described primarily by photographers, artists, and filmmakers—there is no single, universally accepted definition. Instead, a constellation of terms and definitions has emerged. Owing to their distinctive characteristics and potential, these spaces have attracted the attention of scholars from a wide range of disciplines—including economics, sociology, urban planning and architecture, landscape architecture, botany, and biology—each of whom has proposed different terms to describe them.

Some of the most frequently cited terms include: urban voids (Lopez-Pineiro, 2020); the third landscape (Clément, 2022), originally published in French in 2004, urban interstices (Brighenti, 2013), vacant land (Bowman & Pagano, 2004), brownfield or wasteland (Gandy, 2013b), and *Terrain Vague* (Solá-Morales, 1995).

Amongst these definitions, the definition of *Terrain Vague* (Solá-Morales, 1995) marks a turning point. Coined in 1995, during a period of significant deindustrialization and widespread urban shrinkage, it was the first to approach these spaces from a positive perspective—revealing their vast potential while simultaneously warning of the challenges involved in intervening in them: “The relationship between the absence of use, of activity, and the sense of freedom, of expectancy, is fundamental to understanding the evocative potential of the city’s terrain vagues. Void, absence, yet also promise, the space of the possible, of expectation”

(Solà-Morales, 1995, p. 122). The foundational text describes and justifies the choice of the French term *Terrain Vague*, as well as its untranslatability into English, while also explaining its complex etymology and the variety of meanings it conveys.

The original text addresses the fundamental challenges related to the *Terrain Vague* approach, which remain relevant today and have been further explored in this paper, which aligns with this perspective on these spaces. It represents a pivotal shift in reevaluating these spaces as prior texts often regarded vacant land as a problem to be solved (Lopez-Pineiro, 2020). Ignasi de Solà-Morales (1995) emphasizes an essential relationship between the absence of use, the sense of freedom, and the potential evocation of new uses within urban terrains. In this way, the challenge of intervening in these spaces using traditional architectural tools and vision is acknowledged, highlighting the need to avoid becoming an aggressive instrument of power and abstract reasoning. The text provides insights into the revaluation and potential of these spaces, as well as guidelines that can inform strategies for their future regeneration. Continuity, not of the planned and efficient city, but of the flows, energies, and rhythms shaped by time and the dissolution of boundaries, should guide the new approach (Solà-Morales, 1995). These spaces represent a disruption in the functional and productive neoliberal city, existing in a state of suspension across functional, economic, and institutional dimensions. In essence, urban voids (*Terrain Vague*) offer a unique convergence of sociocultural and ecological opportunities (Lopez-Pineiro, 2020).

Terrain Vague: Future Challenges

Regarding the theoretical framework on *Terrain Vague* spaces, we believe there are two distinct, yet interconnected, aspects that it will be important to explore further in future research. First, the theoretical and conceptual definition of these spaces—namely, the description of their physical and planning characteristics, uses, history, as well as the various definitions and terms employed to describe them. Concerning this first aspect, we consider the existing body of literature to be abundant and more than sufficient, with a proliferation of diverse terms and definitions that describe these spaces in detail and with considerable depth. Future research could, in fact, focus on organizing and systematizing this rich universe of terminology—often still used interchangeably. Second, the potential of these spaces in addressing urban challenges. We believe this aspect to be of fundamental importance for addressing the current and future challenges faced by planners, as evidenced by the growing body of research in this direction. Given the new scales of urbanization, the increasing pressures from construction and real estate development, and the finite nature of land as a resource, it is clear that the use of undeveloped spaces will play a significant role in future urban debates. In this regard, the present article should be considered a first attempt to bridge the existing gap between theory and practice in the context of these spaces.

Methodology

This article attempts to bridge the identified gap between academic literature on the potential of *Terrain Vague* spaces—and the emerging projects and practices operating within them-by proposing a preliminary set of indicative strategies. Accordingly, the methodology and sources employed differ across the two main sections of the paper.

The theoretical discourse regarding the value of *Terrain Vague* spaces and the principles of a possible socio-ecological approach is based on a review of existing available literature. A range of texts have been analyzed with the aim of collecting and synthesizing the key aspects to be preserved, and the guiding principles for a valorizing approach to these spaces, as identified by scholars. Two primary challenges emerged in conducting this literature review: the wide variety of terms and definitions used to describe these spaces, and the diversity of academic disciplines concerned with them.

Indeed, the interest in *Terrain Vague* spaces from such varied fields (including economics, sociology, biology, and urban planning) has resulted in a rich and extensive—yet fragmented—body of literature. This disciplinary fragmentation has led to a relative lack of comprehensive overviews or integrated visions. As might be expected, each discipline tends to approach these spaces through its own specific lens, highlighting certain aspects while overlooking others. The greatest value of these spaces arguably lies specifically within the intersection of multiple fields of interest. Therefore, any serious attempt at their revaluation must consider both social and ecological dimensions in tandem.

For these reasons, in the identification and selection of texts for the theoretical framework, the methodological approach adopted began by consulting collections of contributions regarded as key and relevant works on the subject (Brighenti, 2013; Clément, 2022; Gandy, 2022b; Kamvasinou & Roberts, 2014; Mariani & Barron, 2014; Lopez-Pineiro, 2020; Phelps and Silva, 2018). These references were consulted in order to find additional articles and contributions.

After collecting and synthesizing key principles of a socio-ecological approach from the literature, the article proposes an initial attempt at organizing and systematizing the value of these spaces along three main dimensions—ecological, social and economic, cultural and visual—to make explicit and consider together the various values identified and recognized by scholars.

The examples and case studies chosen are intended to represent a small, focused sample of exemplary projects that demonstrate the extreme variety and diversity of these kinds of projects. They were not selected with the aim of providing an extensive and comprehensive collection of projects realized in *Terrain Vague* spaces. From a methodological perspective, the selection of projects was based on specific criteria and characteristics: projects implemented in spaces previously classified as urban vacant spaces; projects that explicitly aimed to preserve some of their original features while applying innovative and socio-ecological approaches; and the inclusion of a variety of scales, functions, and project types. The selection process drew on key compilations and seminal texts on the subject (Kamvasinou, 2006; Mariani & Barron, 2014), as well as works on urban commons, social value, and other more recent projects published in academic and non-academic magazines, websites and journals.

The aim of this paper is not to provide a detailed evaluation of the projects. Rather, it seeks to outline a new approach and identify a set of emerging practices. The article proposes that a critical assessment and deeper discussion of these practices is necessary for future research. Although the selection and presentation of the projects may appear overly positive or celebratory—potentially overlooking nuances, possible negative implications, and lacking a thorough evaluation of their actual impact—this paper serves as an initial step toward a more comprehensive exploration. The selected projects were among those considered the most significant and virtuous implementations of the principles of the new approach, drawn from projects published in academic texts, journals, and articles. All data collected on the projects is based solely on information obtained from these sources. No information or data was collected directly from the field, apart from photographs taken during site visits. Based on the study and analysis of these vague projects, a preliminary attempt at categorizing has been carried out.

For the purposes of this article, an initial sample of nine projects was selected. Compared to the other projects included in the review, the *High Line* project is a pioneering initiative, older than the rest, and one that has received greater attention. For these reasons, there is more literature and a wider range of sources available, and sufficient time has passed to allow for medium- and long-term impact assessments. It is solely for this reason—and not because it is considered more important than the other projects—that the article presents more mature and comprehensive evaluations of this case.

Finally, a detailed analysis was conducted which compared the selected projects based on intrinsic common characteristics, using metrics such as their size, duration of existence, and the strategies employed for their formation. This analysis highlights specific aspects *of Terrain Vague* and the corresponding project strategies. An initial set of strategies for this project was a direct outcome of the analysis. To facilitate this comparison and synthesis, a comparison table (Table 1) and a representative diagram were created (Figure 8), summarizing the findings and illustrating the proposed strategies. In this article, comparison of projects was used as a primarily qualitative research method. Diagrams helped to visualize this comparison and the ideas for further discussion.

Designing with a socio-ecological approach to activate the potential of *Terrain Vague* spaces

This study revealed that *Terrain Vague* can offer opportunities and solutions for unresolved urban problems and significantly contributes to achieving sustainable urban development goals. These spaces can promote a more socially just urban habitat by improving access to and availability of green spaces across all city areas: “Wastelands constitute a resource with relevant strategic opportunities for addressing a variety of issues i.e., reducing land consumption, providing urban maintenance and rehabilitation, and increasing the supply of public open spaces, environmental quality characteristics, community standards and services” (Camerin & Gastaldi, 2023, p. 6).

Although *Terrain Vague* spaces already fulfil important functions, unlocking their full potential requires the development of a new vision. As Solà-Morales (1995) pointed out in the initial definition of *Terrain Vague*, the greatest risks and difficulties associated with these spaces concern the traditional approach to architectural or urban planning: due to their vague, undefined, and mutable characteristics, these spaces challenge traditional design principles, such as function, planning, and ownership, as well as traditional dichotomies like urban and rural, common and private, bottom-up and top-down, ephemeral and long-term. One of the central questions concerning these spaces that this article addresses—paraphrasing the Solà-Morales’s (1995) text is: How can we intervene and design in *Terrain Vague* spaces without compromising their essence and potential? How can we transition from an informal state to a formal and planned state while preserving some of the qualities of the original state?

As a result, this paper proposes several indicators for reconceptualizing *Terrain Vague* through a socio-ecological approach. This reconceptualization is structured as follows:

1. Guiding principles: Initial results that establish guiding principles, derived from theoretical literature.

2. Values of *Terrain Vague*: Presentation of the various values of these spaces as identified in academic literature.

3. Socio-ecological approach in practice: Demonstrating that this socio-ecological approach is already being put into practice.

Guiding principles of a socio-ecological approach

The complex challenge lies in the design and management of *Terrain Vague* spaces, safeguarding the “different priorities: indeterminacy, less control, layers of memory of previous activities” (Kamvasinou, 2006, p. 257) and preserving at least some of the essential characteristics of these spaces. These essential characteristics include: i) diversity, understood both as biodiversity and others (i.e. diversity of users and communities, functional and usage diversity); ii) indeterminacy, openness, and flexibility, meaning openness to

unforeseen and ephemeral uses; iii) the predominance of use value over exchange value, referring to the prevalence of spontaneous and community uses over productive and profit-oriented values.

Primarily, a socio-ecological approach to these spaces should consider the needs and desires of citizens, their existing everyday uses and spontaneous appropriations (Chase et al., 1999), as well as the history of the place (Kamvasinou, 2018; Zetti & Rossi, 2018). In this way, the socio-ecological approach would view these spaces as full of life and possibilities, rather than as a *tabula rasa* to be designed from scratch as in other approaches. In the reuse of these spaces, it would be desirable to involve the local community through participatory and co-creation processes (Kamvasinou & Roberts, 2014; Nunes et al., 2021), including between government institutions and local associations (Russell et al., 2023), challenging the traditional dichotomy between top-down and bottom-up approaches (Kamvasinou, 2017). These spaces could be directly managed by the community as urban commons (Akbil et al., 2022; Belingardi, 2015; Dellenbaugh-Losse et al., 2018; Foster & Iaione, 2022).

Benefit of a socio-ecological approach

Additionally, this type of collaboration would provide mutual benefits. On the one hand, it would satisfy potential stakeholders—those who see these spaces as sources of danger and decay—by offering economical and quick solutions to community needs, given their immediate availability and low costs. On the other hand, through participation and community management, these spaces offer opportunities to strengthen community and neighborhood ties, while also leading to reduced management costs for institutions. In this context, art and artistic activities could be an effective way to initially activate neighborhoods in areas that are usually less active (Bertolino, 2017; LaFond, 2010).

Secondly, a socio-ecological approach would enhance the immense environmental and ecological potential of these spaces while also posing positive social benefits and interests (Anderson & Minor, 2017; Lee et al., 2015; Lokman, 2017; Soares et al., 2017). This can be achieved by designing and planning for diversity, challenging traditional functional dichotomies (diversity in this case refers to both human and non-human diversity, i.e., different communities and biodiversity, as well as diversity in functions, uses, and activities). These spaces fulfil important ecosystem functions and can be designed using nature-based solutions. There is a wealth of scientific literature declaring the enormous environmental and ecological benefits and value of these spaces (Anderson & Minor, 2017; Clément, 2022; Gandy, 2022b; Twerd & Banaszak-Cibicka, 2019). Moreover, it is equally clear that increased presence and availability of accessible green spaces in less privileged neighborhoods or communities with limited access to resources would simultaneously improve both urban ecology and spatial justice: “Hester (2006) introduces the notion of ecological democracy to emphasize that citizens should be engaged in every process of environmental decision-making in order to create inclusive, functioning, and vibrant environments for all living things” (Lokman, 2017, p. 4).

It is essential to consider and assess the dynamics of environmental justice to critically evaluate the actual social impact of new practices implemented in Terrain Vague spaces, particularly in relation to factors such as gentrification or even eco-gentrification (Black & Richards, 2020). This term refers to the relationship between urban green space projects (for example, New York’s High Line) and processes of gentrification: “rising property values, displacement of existing residents, and a large in-migration of wealthy populations” (Black & Richards, 2020, p. 1). Indeed, the creation of improved green areas and enhanced public spaces is often linked to dynamics of speculation and centralized profit, frequently neglecting the needs of the local community: as a clear example, studies on New York’s High Line (Millington, 2015; Haase et al., 2017) highlight these significant aspects.

To mitigate such risks—while acknowledging the complexity of the issue, which would require more in-depth investigation—the active participation and direct involvement of residents and local communities, both in the design and in the management of these spaces, could play a significant role. In this sense, an experimental case of the intersection of social and ecological interests in *Terrain Vague* spaces with the direct involvement of local community is represented by the concept of the healthy corridor, conceived within the Urbinat research project, which in the case of Porto made extensive use of *Terrain Vague* spaces: "the Healthy Corridor is a concept that combines nature-based solutions with human-centered ones to impact citizens' wellbeing" (Moniz, 2021).

Finally, it would be desirable for part of the vagueness, unpredictability, immediacy, and mutability of *Terrain Vague* spaces to be preserved in projects and valued instead of being seen as a problem. This can be achieved by considering the variable of time in the design process, in at least two seemingly contradicting aspects: by valuing and allowing for the temporary and ephemeral, and by designing for the unexpected and unpredictable. Projects in these spaces often originate from temporary and ephemeral occupations and activities, which sometimes extend over time; other times, they conclude, but their social and community legacy is of great value. These spaces are prime grounds for exploration and experimentation in the field of tactical urbanism or temporary urbanism (Grávalos-Lacambra & Di-Monte, 2022; Hou, 2010; Kamvasinou, 2017; Németh & Langhorst, 2014), which, although ephemeral, can be part of a broader strategy, redefining the traditional dichotomy between the ephemeral and long-term vision (Cavaco et al.,, 2018; Pagano & Bowman, 2000).

In addition, although it may seem paradoxical, it is possible to design for the unpredictable, the unexpected, the unplanned and the spontaneous (García & Esmeralda, 2017). Indeed, it is possible to design space as an infrastructure that remains open and available for change, for different and variable uses, that is adaptable according to needs and functions, and that is welcoming to spontaneous and unexpected uses—both for humans and nature (Sikorska et al., 2021). Recently, landscape architects have been very sensitive to the ecological and aesthetic value of spontaneous nature, and it is possible to observe the emergence of practices and projects for parks and gardens where large areas are deliberately left unplanned, allowing spontaneous nature to emerge, and for mutability and unpredictability to appear (Kamvasinou, 2006; Metta & Olivetti, 2021).

Values of Terrain Vague

To activate and enhance the role of *Terrain Vague* in sustainable urban development, the urban and architecture design serves as a key tool for uncovering and leveraging the place's qualities and potential from a holistic perspective. First, an innovative project in Terrain Vague spaces acknowledges and amplifies the tangible and intangible connections of the space, facilitating its preservation. It then provides a comprehensive assessment of the various values at stake, ensuring balance across the three pillars of sustainability: social, economic, and environmental. Upon completion, the project's impact can be evaluated based on the mentioned sustainability pillars. *Terrain vague* spaces offer unique sociocultural and ecological opportunities, acting as intersections of diverse values and interests (Lopez-Pineiro, 2020). The authors propose three provisional categories of values or potentials, recognizing their interconnectedness: i) ecological value, ii) social and economic value, iii) and cultural, visual, and aesthetic value.

Ecological value

These spaces harbor a rich variety of biodiversity (Figure 2) as they serve as havens for endangered species that are not allowed within human-controlled green areas (Clément,

2022; Gandy, 2013a, 2013b, 2022a, 2022b). Despite their small size, when interconnected and treated as a unified system, these spaces can transform into green corridors (Nunes et al., 2021) (for istance, Corredores Verdes in Lisbon), serving as meeting points between urban and wild environments (Metta & Olivetti, 2021), as well as human and non-human elements (Kamvasinou, 2011; Lokman, 2017; Stavrides, 2014). Notably, "vacant lots that are allowed to grow wild (unmowed) or that are restored have the potential to increase urban biodiversity and may even contribute to the conservation of rare and endangered species" (Anderson & Minor, 2017, p. 147). They provide opportunities for informal gardening (Beveridge et al., 2022) and the potential for cultivating low-cost, local products, establishing new networks, and complementing existing urban food systems (Marat-Mendes et al., 2022). Moreover, *Terrain Vague* spaces provide important ecosystem services (Cortinovis & Geneletti, 2018; McPhearson et al., 2013) and ecological functions such as rainwater absorption, air quality improvement, and all other benefits related to the presence of vegetation in urban contexts, and they can be conceptualized or designed as nature-based solutions (Sikorska et al., 2021).



***Figure 2**. High Line before intervention. Source: Wally Gobetz / CC BY-NC-ND 2.0*

Social and economic value

Due to their uncertain nature, these spaces are often spontaneously and informally utilized by nearby residents, fostering community interaction and occasional conflicts, while also accommodating uses that are typically restricted in traditional public spaces (Kamvasinou & Roberts, 2014; Mariani & Barron, 2014). It is precisely their detachment from certain controls, productivity, and economic mechanisms that positions these spaces as potential alternative models to the neoliberal city. Additionally, these spaces can be used for urban design experiments, events and temporary uses that foster aggregation (Beveridge et al., 2022), strengthen bonds and benefit the community. The presence of green areas—or the transformation of abandoned spaces into gardens and parks—not only enhances the quality of life of residents and also increases the value of surrounding residential properties (Nassauer & Raskin, 2014).

Cultural, visual and aesthetic value

Since the early 1960s, the concept of *Terrain Vague* has received significant interest from artists (Careri, 2006), filmmakers and photographers (Mariani & Barron, 2011) who were attracted by the beauty and new aesthetics of these spaces, long before they were discovered and studied by architects, urban planners and academics. Lately, there has been growing interest and appreciation within these disciplines for the aesthetics of ex-industrial, abandoned, or incomplete spaces (Gandy, 2003), such as the project *Incompiuto Siciliano* (Gambaro, 2020). This has increasingly led architects, artists, planners and landscape architects to requalify industrial space, abandoned or in ruins, as no longer negative but rather as the inspiration and subject of a project (Gandy, 2013a). Precisely because of their state of abandonment, *Terrain Vague* spaces often contain important traces of the territorial palimpsest, ruins, parts of monuments, traces of the history (Kamvasinou, 2018), culture and overlays of the place (Zetti & Rossi, 2018). For this reason, visiting these spaces can strengthen a community's sense of belonging, as well as play a didactic role in learning about the history of a place. Therefore, it becomes important to acknowledge that "ephemeral and interim urban spaces as part of heritage ensures that valuable community spaces do not get lost but are documented and revisited for future generations and build a legacy worth following and sustaining in collective memory and practice" (Kamvasinou, 2018, p. 97).

Socio-ecological approach in practices: nine projects

In this section, nine examples are presented to exemplify the consistent application of the principles outlined in the new approach (Table 1). A list of projects is organized according to the nature of the intervention, the project's main purpose or function, and the involvement of different types of technicians and professionals in its implementation.

Project	Location	Year	Scale	Duration	Type	Key concept
High Line	New York, USA	2009	Medium (Linear shape)	2009–	Urban park	Regeneration
Parc aux Angéliques	Bordeaux, France	2012	Big	2012–	Urban park	Unfinished
Parc Henri Matisse	Lille, France	2001	Big	2001–	Urban park	Third landscape
Passage 56	Paris, France	2006	Small	2006–	Small multifunctional plots	Participation
LABIC Barreiro Velho	Barreiro, Lisbon, Portugal	2022	Small	2022–2023	Small multifunctional plots	Citizen laboratory
ONDI	Tokyo, Japan	2010	Small	2010–	Small multifunctional plots	Flexibility
R-Urban	Paris, France	2008	Medium	2008–2015	Urban garden	Urban commons
BotaniCALL	Lecce, Italy	2020	Medium	2020–	Urban garden	Reactivation
Abbey Garden	London, UK	2008	Small/ Medium	2008–	Urban garden	Historical heritage

***Table 1**. Comparative summary table of the observed projects*

Public parks

The *High Line* in New York (Figures 2 and 3) was originally built in 1934 as a functioning rail line. It was then decommissioned in 1980 and became an abandoned structure in the city center. Over time, without human control, vegetation started to grow along the old rail line, transforming it into a wild garden. Initially considered old and unattractive, the structure was slated for demolition. In 1999, the non-profit conservancy "Friends of the High Line" was established to advocate for its preservation and repurposing as a public space. Through a collaboration between James Corner Field Operations, Diller Scofidio + Renfro, and Piet Oudolf, the project successfully regenerated the structure, opening it to the public while preserving its ruins and the spontaneous vegetation that had grown. In this case, as in other cases of linear parks that followed this pioneering project, the ecological value should be conceived not in absolute quantitative terms but in relation to its context. In a densely built and permeable context, a green passageway holds significant value for the community and residents. Although initially intended to improve the quality of space for local inhabitants, its added value—combined with rising surrounding property prices has contributed to the gentrification of the surrounding neighborhoods (Black & Richards, 2020).

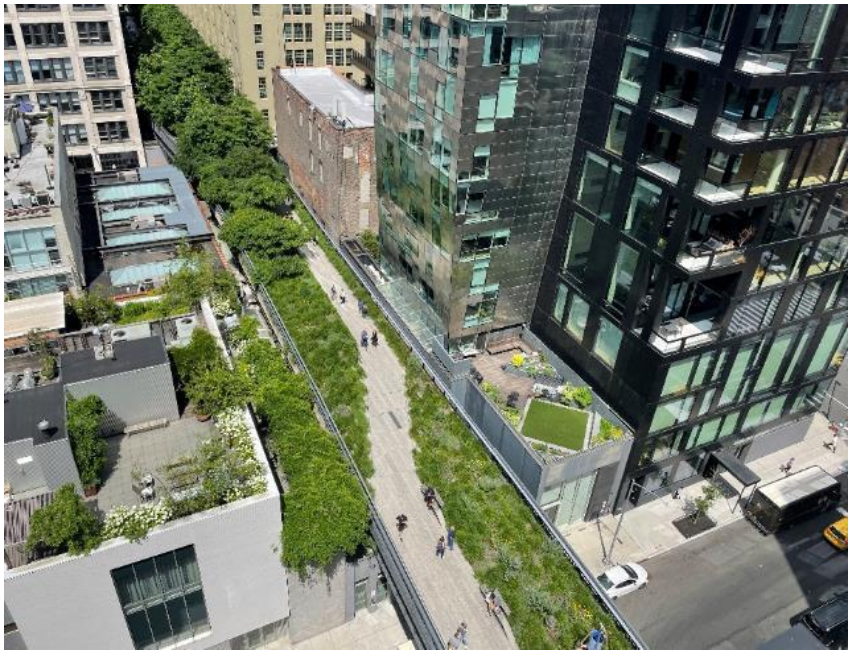


***Figure 3**. High Line project. Source: Wil Fyfordy / CC BY-SA 4.0*

Landscape architect Michele Desvigne coined the term "intermediate nature" (Desvigne et al., 2009) to describe his approach and projects. Desvigne's designs embrace the concept of time, allowing for phases, the ephemeral, and the indeterminate. They aim to create a structural framework that can adapt to events, uses, and communities over time. Resembling natural cycles rather than finished architecture, Desvigne's projects have a long lifespan, and consider the "meanwhile" of the transformation process. These "intermediate natures" provide positive attributes to the sites while awaiting construction (Desvigne et al., 2009; Kamvasinou, 2006; Koller, 2016). For example, the master plan proposal for the riverbank in Bordeaux (2004–2005), which would later also include the *Parc aux Angéliques* urban park, envisions the conversion of former abandoned and post-industrial lots into a floodplain forest. However, the master plan does not focus solely on the final formal outcome and aspect, but also on the process and the passage of time. Indeed, it allows for considerable flexibility and openness regarding the final form, thus aiming for the progressive transformation of the landscape and

enabling spontaneous and unexpected appropriations—whether by nature itself or by unforeseen needs arising during the process (Desvigne et al., 2009).

The garden designer and botanist Gilles Clément coined the term “third landscape”, identifying by exclusion all areas that are neither pristine nature nor man-made gardens or parks. With his *Manifesto*, Clément (2022) gives attention, value and status to marginal and abandoned spaces, where human neglect has fostered a wealth of species and biodiversity. After theorizing this concept, along with others, through books and publications, he went on to design several projects that put these ideas into practice. Among these, one of the most renowned examples is undoubtedly *Parc Henri Matisse*, located in an intermediate zone between the city center and the railway, aims to create a new urban ecological enclave by enhancing and preserving the intrinsic characteristics and values of the site and of the pre-existing *Terrain Vague* space. Set in the middle of *Parc Henri Matisse*, is Derborence Island (Figure 4), a reinforced concrete platform inaccessible to man, represents an interesting realization of his ideas. Far from the gaze and control of humans, this space becomes an unspoilt natural reserve; despite being artificial and man-made, it is a monument to biodiversity (Gandy, 2013a; Marinoni, 2004; Zetti & Rossi, 2018). Derborence—named after one of Europe’s primary forests in Switzerland—becomes, in this project, a hidden, elevated, and inaccessible area designed to preserve a new fragment of untouched nature (Marinoni, 2004).



***Figure 4**. Derborence Island, Parc Henri Matisse. Source: Velvet / CC BY-SA 3.0*

The last two presented projects are designed green spaces and because of the large scale of the intervention, it can be stated that they have a high ecological and environmental value and demonstrate good ecosystem service performance. This is due to the urban context in which they are located, their extensive permeable surface area, and their innovative approach, which involves preserving or even stimulating spontaneous and uncontrolled nature. In addition to the general social and economic value of the increased presence of urban green spaces, this latter aspect further enhances the significance of these projects. In particular, adding social, aesthetic, cultural, and educational value for a new re-evaluation and understanding of nature in urban contexts, challenging the traditional conception of these spaces.

Small multifunctional plots

Passage 56 (Atelier Architecture Autogérée, 2006), a small vacant lot or interstitial space located in the Saint Blaise district in Paris, was initially abandoned as it was considered unbuildable. However, it later became the subject of an interesting project conducted by Atelier

Architecture Autogérée. After several months of surveys and investigations conducted with inhabitants and neighborhood associations, the architects proposed solutions based on suggestions made by the local community. Community-led construction workshops were organized, and during the construction period, the space remained open to allow citizens to use the area, learn with the construction site, and contribute with small "parallel" construction projects. The space is periodically used by the community for gardening, urban agriculture, performances, exhibitions, debates, parties, workshops, and any other type of event.

LABIC Barreiro Velho (LABIC, 2022), a laboratory of community innovation based in Barreiro Velho—a city within the Great Metropolitan Area of Lisbon—plans to carry out surveys to map and identify places and people in the area; to create and strengthen relationships and a sense of community; to design and implement projects with the participation of citizens; and to strengthen links between the community and institutions. In 2022, during the first phase of LABIC, a photographic walk was organized by the laboratory team in collaboration with the photographers' association of Barreiro Velho, local residents, and other artistic and cultural organizations: this was connected to projects' initial aim to identify and map the local actors, challenges, as well as the potential of the territory. During the photo walk, 25 urban voids were identified, mapped, and photographed, all of which were abandoned and unused. These amounted to 450 m^2 of empty space, i.e. the equivalent of a football pitch. At a later stage, hypotheses about the possible future of these voids were made, together with the inhabitants and architecture students. During this process, the owner of "void number 12" temporarily gave the land to the LABIC association, which immediately began cleaning and maintenance activities to make the space usable. Subsequently, the space was used as a meeting space with the community to discuss its future use (Figure 5).



***Figure 5**. The void 12 used for a festival. Source: Carolina Cardoso, LABIC*

ONDI is a vacant rental space located in the Yanaka neighborhood in Tokyo. In this case, "the owners of this site deliberately set aside the financially lucrative coin-operated parking option. Instead, they placed a higher value on the quality of the neighborhood, appreciating its tradition of cultural and creative richness exemplified by the increasing number of galleries, workshops, and cafes selling handicraft and artworks" (Rahmann & Jonas, 2014, p. 100). The owner decided to rent this space at minimum rates and with very simple and flexible rules, which make it possible for different groups to use the space for very different cultural events. The mix of events, ranging from performances, art exhibitions, markets, student workshops to traditional *Butoh* performances.

These last three projects share common characteristics: relatively small-sized spaces in extremely dense and built-up contexts that do not propose any permanent or irreversible modifications to the space. Considering their small scale, the ecological contribution to the city may not be significant in quantitative terms, although it is important to note that, before the intervention, these spaces were often used as dumps and were therefore polluted. Considering the context, flexibility, and possibilities, these spaces have a significant social and cultural impact relative to their size. The social and cultural value lies in hosting a wide variety of events and activities, reflecting the real needs of the community and changes over time, at extremely low costs, thus also impacting the economic aspect.

Urban gardens

R-Urban (Figure 6) is a replicable prototype project realized in Colombes, in the suburbs of Paris, from 2013–2017 by Atelier d'Architecture Autogérée (Petcou & Petrescu, 2014, 2015; Petrescu & Petcou, 2023). Starting from the reactivation of a vast abandoned *Terrain Vague* between social housing buildings, the project involved co-designing and implementing a hub together with the inhabitants and local associations, serving as the center of a system and network of local actors. One of the most interesting aspects of the project is the simultaneous coexistence of agricultural, cultural and social functions, and an educational dimension: all processes were designed and implemented together with the community, at events and workshops, thus activating a continuous learning circle (Atelier Architecture Autogérée, 2022).

In 2018, the plot, owned by the municipality, was sold for the construction of a car park (Drouet & Lacrouts, 2018). The legal process that followed these events was an opportunity to test out an innovative approach for the economic valuation of the different types of new tangible and intangible values that the project had produced. In the words of the organizers, "we combine estimates of the direct revenues generated for a host of activities that took place in R-Urban, including an urban farm, community recycling center, a greenhouse, community kitchen, compost school, café, a teaching space, and a mini-market. We then estimate the market value of volunteer labour put into running the sites, in addition to the value of training and education conducted through formal and informal channels, and the new jobs and earnings that were generated due to R-Urban activity" (Petrescu et al., 2021, p. 159).



***Figure 6**., R-Urban. Source: Ion Antim / CC BY-SA 4.0*

BotaniCALL (2016) is the project of reactivating 1500 m^2 of the 13-hectare Botanical Garden in Lecce, Italy, led by Team Lecce of Actors of Urban Change. The Salento Botanical Garden had been abandoned for years, when in 2016 a group of volunteers started a synergistic vegetable garden, with the aim of transforming the botanical garden into a local hub for growing food, experimenting with new techniques and researching local traditions (Giulia Toscani et al., 2017). “The team, made up of a cultural association coordinator, a public foundation board member, an architect and an urbanist, has focused on encouraging locals to engage with the local environment as well as experiment with sustainable practice and production at a time when climate change is just beginning to impact the region” (Schlueter & Surwiłło-Hahn, 2018, p. 42).

Abbey Garden (Figure 7) is a community garden, and public space located in Newham and founded in 2008. The space functions as both a community garden—with volunteers organizing workshops every 3 weeks—and as a public space open to the community. What makes this space unique is its connection to culture and historical memory, due to its origins and continued development through artist-funded initiatives and proposals. “The element of heritage is clear in the history and status of the site, as it is one of only two Scheduled Ancient Monuments in Newham that contains the remains of a twelfth-century Cistercian abbey where monks once ran a kitchen garden” (Kamvasinou, 2018).



***Figure 7**. Abbey Garden, 2023. Source: the authors*

The last presented examples are three urban community garden projects, created in previously abandoned and unused spaces, initiated, designed, and managed directly by the community and local associations. From an ecological perspective, they are agricultural spaces, thus permeable, in an urban context. Their great ecological and social value lies in their educational, didactic, and awareness-raising character regarding sustainable food production and consumption, which is of great importance for the future of cities. All of these projects are managed directly by the community as urban commons, based on mutual learning and the sharing of knowledge and experience. Profit or the sale of products are not core aims, instead, the focus is strengthening community bonds and learning agricultural skills and practices. Finally, these spaces are not limited to hosting agriculture-related functions; they often offer social, cultural, and artistic opportunities (festivals, workshops, concerts, lessons).

Findings: indicative strategies for designing with a socio-ecological of *Terrain Vague* spaces

From the intersection of the guiding principles of the socio-ecological approach and the review of the case studies, possible indicative strategies are derived that indicate a new socio-ecological approach to *Terrain Vague*. As a result of the analysis of the projects, a synthesis matrix diagram is proposed to represent the possible indicative strategies (Figure 8). The comparative analysis of these examples focused on three key variables, which were deemed crucial based on academic literature, the nature of the space, type of intervention, designer's intentions, and the availability and type of project data. These variables are: (1) Time; (2) Scale; and (3) Strategy.



***Figure 8**. Comparison of projects based on space, time, and strategy. The colored circles represent the preferred strategies in each project. The size of the circle is merely a graphic device of representation. Source: the authors*

Time is really the key factor in *Terrain Vague* design. These spaces are always occupied with informal and temporary appropriations and uses before the interventions. For this reason, the intervention in these spaces oscillates at varying intensities between continuing to preserve the current occupation and allowing future new uses, through the design of unpredictability. This last approach involves creating structures, traces, or infrastructures that remain open to the unexpected rhythms of both natural and human cycles, extending entirely beyond the designer's control.

Scale is both the easiest to compare and the most variable visible material feature existing a priori. The scales of the *Terrain Vague* vary from interstitial plots within dense built-up areas to large undeveloped land at the city limits. The hypothesis concludes that scale can influence the design of these spaces and enquires into how. It is important to note that the scale of the space does not necessarily correspond to the scale considered by the intervention, e.g. a very small empty lot can be a key element included in a spatial scale strategy.

Strategy for designing *Terrain Vague* spaces is an attempt to synthesize the set of actions, tactics and intentions introduced and considered to achieve a given objective. Therefore, depending on the variables at play, the designer may prefer one strategy over another.

The proposed chart is organized in two axes (Figure 8): scale and time. The vertical axis of the map represents the scale of the space considered, and the horizontal axis represents the time scale considered in the project. The colored circles each represent a strategy and are represented under the name of the projects, and the varied size of the circle demarcates the co-presence of different strategies.

The authors propose five possible indicative strategies or tactics, conceived as fundamental project dimensions, derived from the intersection of the theoretical framework and the project review:

1. *Ephemerality and temporality.* Time is considered as an element and criterion of design in three different ways: first, as a way to consider the human and non-human uses and appropriations that always exist in these spaces at the time of the project; secondly, by conceiving the intervention in phases—accounting for the intersections and overlaps of the phases, as well as the interim use of the spaces while the work is being implemented. Time can be considered as a design strategy in various ways and dimensions: incorporating the passage of time into the project, and therefore embracing unpredictability and the spontaneous appropriation of nature, as in the case of *Parc aux Angéliques* in Bordeaux or *Parc Henri Matisse*; time understood as maximum flexibility to accommodate any type of activity or function, adapting over time, as in the case of *Passage 56* or *ONDI*; time as an ephemeral or temporary intervention, as in the *LABIC* project; and time in the sense of history and heritage, as in the case of *Abbey Garden*. Finally, due to the transitory and uncertain nature of these spaces, it would be important to value and incentivize ephemeral or temporary uses as they can activate collaborations or strengthen the sense of community. This is the case of the spaces *LABIC*, *ONDI* and *Passage 56*, where the absence of a single specific function allows for ever-changing ephemeral occupations. It also applies to the case of *Abbey Garden*, where the history of the place has inspired the design of the garden.
2. *Indeterminacy and vacancy*. The new *Terrain Vague* vision should take indeterminacy into account—rather than designing and implementing finished and concluded forms, it should set structures, frames or open systems that are flexible and adaptable to spontaneous appropriation or variation of circumstances. For the three small multifunctional plot projects—*Passage 56*, *ONDI*, and *LABIC*—the design approach

deliberately avoids fixing the space to predetermined uses. Instead, by preserving the functional openness typical of *Terrain Vague* spaces, these projects remain adaptable over time, ready to host an unlimited variety of occupations and activities as circumstances evolve. This approach would make it possible to preserve the absence of control and unpredictability, and to leave possible informal and spontaneous appropriations. This strategy can vary from light-touch designing of paths that leave plants free to grow in unpredictable forms over time, as in the case of Desvigne's works (*Parc aux Angéliques*), to the most radical and extreme case of Derborence island (*Parc Henri Matisse*), where the project creates an area inaccessible to humans, allowing natural processes to unfold unpredictably and freely.

3. *Multiscalarity*. Through a complex network of material and immaterial connections and flows, these spaces always involve different scales of interest and intervention—from the local to the global, from the neighborhood scale to the city scale—which should always be considered. Indeed, these spaces can fulfil both local functions, such as providing access to green spaces or community spaces, as well as urban functions, such as rainwater absorption or walkways and cycle paths (e.g. in the case of the *High Line*). This aspect is evident, first of all, in the significant differences in scale among the projects, which range from large urban parks (such as in Bordeaux) to the small footprint of a single buildable lot or an interstitial gap between buildings, as in the case of *Passage 56*. Moreover, these projects often act as mediators and connectors across multiple scales: in the case of *Parc Henri Matisse* or *Parc aux Angéliques*, they bridge the scale of major infrastructure (river, docks, or railway) with that of the local urban fabric; they can also function as linear routes, as with *LABIC*; and, finally, they may serve as hubs integrated into a larger territorial system or network, as in the case of *R-Urban*.

4. *Diversity.* This term refers to two different aspects. Firstly, it refers to the preservation of the abundance that diversity represents in these spaces: biodiversity, diversity of communities, uses, functions, and exchanges between the human and non-human. Secondly, it refers to the consideration and balance of the diversity and of the different values outlined earlier (ecological, social, and aesthetic). The *R-Urba*n project, for example, is an agricultural and permeable space, and by conducting agricultural workshops and self-construction of structures and street furniture, it provides ecological, social, and aesthetic and cultural functions at the same time. In this sense, it is interesting to observe how the different projects interpret the notion of diversity in distinct ways: large urban parks tend to frame it primarily as botanical diversity or biodiversity (as in the cases of *Parc Henri Matisse* and *Parc aux Angéliques*); the three multifunctional plots projects express it as an extreme openness to multiple uses and activities, precisely by avoiding any predefined function; while urban gardens combine both dimensions—diversity of activities and functions, and diversity of objectives, for instance, social, educational, and pedagogical aims.

5. *Connectors, limits and margins.* The new vision for these spaces should reverse the concept of limits and margins, traditionally seen as of less importance, and should instead conceive the design of margins, of boundaries as a valuable opportunity to reactivate connections and flows in the contemporary city. Small urban voids, if they do not have great value or potential in isolation, can gain enormous potential value if they are connected and function as networks and systems between the human and non-human. This is the case of the void in LABIC, for instance. These projects operate as margins—intermediate and mediating spaces. In Bordeaux, they mediate between the river and the city; in *Parc Henri Matisse*, for example, between the railway and the

local urban scale. In the case of the small multifunctional plots, as well as urban gardens, the project sites are tiny urban interstices that function both as physical connectors—spaces that can be crossed, pathways—and as metaphorical connectors, strengthening neighborhood ties.

Discussion

Over the past two decades, several experimental and emerging projects have attempted to engage with *Terrain Vague* spaces, seeking to preserve their qualities while pursuing social and ecological goals. Despite their significant value and potential—demonstrated and described by a substantial body of interdisciplinary academic literature—the integration and enhancement of these spaces within the urban system remains highly complex and rarely occurs. One of the main challenges lies in the ability to intervene in such places while preserving and enhancing their spectrum of values. This type of intervention is particularly difficult and requires careful attention to the defining characteristics of *Terrain Vague* spaces, as well as the consideration of diverse values—social, environmental, and cultural.

This article is an initial attempt to bridge the existing gap between scientific literature and emerging practices in these *Terrain Vague* spaces. It provides an initial systematization of such practices by proposing a set of strategies derived from the intersection between theoretical guiding principles and the specific features of the selected projects. The analysis and systematization of these innovative practices aim to contribute to the definition of a new socio-ecological approach—one that can subsequently be tested and integrated into design practices and urban planning processes. The article responds to research questions concerning these spaces. Specifically, how is it possible for *Terrain Vague* spaces to transition from a state of abandonment and spontaneity to a formal project state without losing their qualities?

From the existing literature, a set of theoretical guiding principles were derived to inform an approach to these spaces aimed at preserving their value. To this end, it was also necessary to gather a variety of contributions concerning the value of these spaces and to outline a preliminary classification along three main axes—social, ecological, and cultural. It is important to recognize that the value of these spaces encompasses multiple disciplines and very different forms of value: from biodiversity to social and community spaces, from economic benefits to a new aesthetic. These values can be preserved through a new socio-ecological approach, outlined by the guiding principles—an ensemble of theoretical recommendations drawn from academic literature.

This research sought to test whether these theoretical guiding principles can be applied in practice by identifying emerging practices within *Terrain Vague* spaces and examining how the principles had been implemented. The observation and comparison of a small sample of selected experiences offers valuable reflections and insights for future research. For example, one interesting insight concerns the considerable variety of these projects in terms of scale, duration, actors involved, public sector engagement, type of space, project typology, and so on.

From this, it can be inferred that these spaces have the potential to support a wide range of projects and solutions. This highlights the need for future research to further investigate the relationship between the specific characteristics of these spaces and the types of projects or functions that may be implemented within them.

The study emphasized the need for a new approach that preserves the essence and potential of these *Terrain Vague* spaces while transitioning them from informal to formal spaces. This vision includes guiding principles such as acknowledging temporary uses, considering varying

scales, preserving biodiversity, addressing both local and urban functions, and redefining boundaries to activate connections.

The new socio-ecological approach should be based on some of the characteristics of *Terrain Vague* spaces, valuing and transforming them into guidelines for future development. Diversity should be maintained and designed, allowing for the integration of the various values present in these spaces (ecological, social, economic, cultural, and aesthetic), enabling different functions, and transforming these spaces from limits to margins, spaces of connection and passage, at various scales. This diversity is possible when the space is flexible and open to changes. By considering time, unexpected and spontaneous uses can be planned for, allowing both people and nature to use the space freely: this would allow for the emergence of spontaneous human and non-human appropriations, as well as ephemeral projects and tactical urbanism. In turn, temporary projects and small urban interventions could activate long-term processes and provide immediate solutions to community needs. The local community, at both neighborhood and city levels, would likely benefit most from this approach, as these stakeholders would have greater access to green spaces and non-profit spaces which they can manage directly, and where they can learn, experiment, and organize cultural, artistic, and agricultural events.

Closing remarks

In the introduction section, it was outlined the importance and potential of *Terrain Vague* spaces, based on their specific characteristics, qualities, and the scarcity of available land in dense urban contexts—particularly considering future urban challenges, the demand for greater spatial and ecological justice, and the improvement of urban quality of life. However, we believe that much remains to be done regarding the design, approach, and interventions in these spaces, as well as their integration into conventional planning, legislation, and local authority policies. In fact, the existing gap between theory and practice, coupled with outdated paradigms, means that the value of these spaces is still largely overlooked by conventional planning systems.

Moreover, innovative projects in *Terrain Vague* offer significant opportunities for experimentation in urban design, co-creation, and urban commons. These projects could provide valuable lessons for the future integration of bottom-up, co-created, and co-managed practices into conventional planning, as well as for approaches that embrace spontaneous nature and biodiversity.

For these reasons, this article proposes an initial attempt to connect the extensive theoretical literature on the potential of these spaces with projects implemented in accordance with such principles, through the examination of a sample of selected case studies. Furthermore, by cross-referencing the literature with the review of these cases, the article seeks to derive a preliminary set of potential strategies for innovative interventions in *Terrain Vague* spaces, aimed at advancing planning, urban design, and urban policy.

Among the wide range of practices and projects emerging in these spaces, we consider this selection to be exemplary of a new and innovative approach. This approach formally intervenes in *Terrain Vague* spaces while simultaneously preserving some of their original features—aiming to enhance their intrinsic value rather than erase it and replace it with new productive functions. Moreover, although the collected practices may appear to present cohesive interventions in unused or underused spaces, the projects represent considerable diversity in several aspects, such as type and scale of space, primary function, designers and stakeholders involved, duration, legal framework and urban designation, as well as modes of governance and community participation.

This study demonstrates that there is a correspondence between the theoretical prescriptions regarding the principles and value of *Terrain Vague* spaces and the emerging projects and practices taking place within them. This alignment is precisely what allows such practices to avoid becoming destructive interventions and instead act as strategies that preserve or activate the potential identified benefits of these spaces. Given the multidimensional nature of their value, a holistic approach is required—one that considers environmental, ecological, social, economic, and cultural aspects within the urban context.

Furthermore, by describing and analyzing the nine selected projects, this research proposes a set of indicative strategies. These strategies represent concrete ideas and actions that translate the theoretical guiding principles into practice, closely connected to the specific characteristics of *Terrain Vague* spaces.

The strength of this article lies in its attempt to address the identified gap in scientific literature, namely the missing link between the theoretical framework concerning the potential of *Terrain Vague* spaces and the innovative practices implemented in recent years. Its main contribution is the effort to systematize these practices based on the existing scientific framework, while also proposing a set of possible strategies.

As this represents an initial attempt, it is important to highlight the limitations of this research, which primarily concerns the relatively small number of reviewed projects, as well as the depth of the analysis and comparison among the observed experiences. In this regard, it is necessary to emphasize the importance of future research that considers a significantly larger number of case studies, based on clear selection criteria, and that develops a more in-depth analysis and comparison, also accounting for additional relevant factors. We believe that such an approach may further contribute to refining and expanding the proposed set of indicative strategies.

Noting that this article is an initiation into enquiry, a more in-depth analysis and systematization of these practices is of crucial importance in order to better understand the features of *Terrain Vague* spaces, implications for planning and design, and potential to address the urban challenges of the future.

Finally, an important aspect that future research will need to assess and address is the social dimension and impact, particularly in relation to social justice and equity. While there is a growing set of parameters and criteria for evaluating the ecological dimension and impact of projects of this kind, these will need to be complemented by specific indicators that address the social dimension. Such indicators must be developed, measured, and adapted to the specific case of *Terrain Vague* spaces.

As demonstrated by the growing body of scientific literature, and innovative practices that have emerged in recent years on the topic, fostering research and practice around *Terrain Vague* will be of fundamental importance for addressing urban challenges and for future planning.

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References

Akbil, E., Axinte, A., Can, E., de Carli, B., Harrison, M., Méndez de Andés, A., Moebus, K., Moore, T., & Petrescu, D. (2022). *Urban commons handbook*. dpr-barcelona.

Anderson, E. C., & Minor, E. S. (2017). Vacant lots: An underexplored resource for ecological and social benefits in cities. *Urban Forestry & Urban Greening,* 21, 146–152. https://doi.org/10.1016/j.ufug.2016.11.015

Atelier Architecture Autogérée. (2006). *Passage 56*. AAA. https://www.urbantactics.org/projets/passage56

Atelier Architecture Autogérée. (2022). R-Urban: Resilient agencies, short circuits, and civic practices in metropolitan suburbs. *Harvard Design Magazine,* 37.

Belingardi, C. F. M. (2015). *Comunanze urbane. Autogestione e cura dei luoghi*. Firenze University Press.

Bertolino, N. (2017). Riappropriarsi dei luoghi dell'abbandono: La comunità creativa come epicentro della rigenerazione urbana sostenibile. In R. Galdini & A. Marata (Eds.), *La città creativa – Spazi pubblici e luoghi della quotidianità* (pp. 69–77). CNAPPC.

Beveridge, R., Kip, M., & Oevermann, H. (2022). From wastelands to waiting lands: Retrieving possibility from the voids of Berlin. *City,* 26(2–3), 281–303. https://doi.org/10.1080/13604813.2022.2040200

Black, K. J., & Richards, M. (2020). Eco-gentrification and who benefits from urban green amenities: NYC's High Line. *Landscape and Urban Planning,* 204, 103900. https://doi.org/10.1016/j.landurbplan.2020.103900

Bonfantini, B., & Forino, I. (Eds.). (2021). *Urban interstices in Italy: Design experiences*. LetteraVentidue.

Bowman, A. O., & Pagano, M. A. (2004). *Terra incognita: Vacant land and urban strategies*. Georgetown University Press.

Brighenti, A. M. (2013). *Urban interstices: The aesthetics and the politics of the in-between*. Ashgate.

Camerin, F., & Gastaldi, F. (2023). Wastelands. Recycling urban spaces for the shrinking city. *Contesti. Città, Territori, Progetti,* 1, 5–13. https://doi.org/10.36253/contest-14671

Careri, F. (2006). *Walkscapes: Camminare come pratica estetica*. Einaudi.

Cavaco, C., Santos, J. R., & Brito-Henriques, E. (Eds.). (2018). *Ideas for intervention in abandoned urban spaces*. Academia de escolas de arquitetura e urbanismo de língua portuguesa.

Chase, J., Crawford, M., & Kaliski, J. (1999). *Everyday urbanism*. Monacelli Press.

Clément, G. (2022). *Manifesto of the third landscape*. Trans Europe Halles.

Cortinovis, C., & Geneletti, D. (2018). Mapping and assessing ecosystem services to support urban planning: A case study on brownfield regeneration in Trento, Italy. *One Ecosystem,* 3, e25477. https://doi.org/10.3897/oneeco.3.e25477

Dellenbaugh-Losse, M., Zimmermann, N.-E., & de Vries, N. (2018). *The urban commons cookbook*.

Desvigne, M., Corner, J., & Tiverghien, G. A. (2009). *Intermediate natures: The landscapes of Michel Desvigne*. Birkhäuser.

Drouet, L., & Lacrouts, O. (2018, May 4). Parigi. Una nuova Agrocité. *Domus*. https://www.domusweb.it/it/architettura/2018/05/04/parigi-una-nuova-agrocit.html

Foster, S. R., & Iaione, C. (2022). *Co-cities: Innovative transitions toward just and self-sustaining communities*. MIT Press.

Gambaro, M. (2020). Alterazioni Video e Fosbury Architecture (Eds.), Incompiuto: La nascita di uno stile / The birth of a style. *TECHNE – Journal of Technology for Architecture and Environment*, (20), 309–310. https://doi.org/10.13128/techne-10150.

Gandy, M. (2003). Landscapes of deliquescence in Michelangelo Antonioni's *Red Desert*. *Transactions of the Institute of British Geographers,* 28(2), 218–237.
Gandy, M. (2013a). Entropy by design: Gilles Clément, Parc Henri Matisse and the limits to avant-garde urbanism. *International Journal of Urban and Regional Research,* 37(1), 259–278.
Gandy, M. (2013b). Marginalia: Aesthetics, ecology, and urban wastelands. *Annals of the Association of American Geographers,* 103(6), 1301–1316.
Gandy, M. (2022a). Ghosts and monsters: Reconstructing nature on the site of the Berlin Wall. *Transactions of the Institute of British Geographers,* 47, 1120–1136.
Gandy, M. (2022b). *Natura urbana. Ecological constellations in urban space*. MIT Press.
García-López, E. (2017). From void to opportunity. *Procedia Environmental Sciences,* 37, 637–646.
Grávalos-Lacambra, I., & Di Monte, P. (2022). New paradigms of the unfinished city: The reactivation of abandoned spaces through temporary uses. *Ciudad y Territorio Estudios Territoriales,* 54(214), 799–812.
Haase, D., Kabisch, N., Strohbach, M., Haase, A., & Kabisch, S. (2017). Greening cities – To be socially inclusive? About the alleged paradox of society and ecology in cities. *Habitat International,* 64, 41–48. https://doi.org/10.1016/j.habitatint.2017.04.005
Hou, J. (Ed.). (2010). *Insurgent public space: Guerrilla urbanism and the remaking of contemporary cities*. Routledge.
Kamvasinou, K. (2006). Vague parks: The politics of late twentieth-century urban landscapes. *Architectural Research Quarterly,* 10(3–4), 255–262. https://doi.org/10.1017/S1359135506000364
Kamvasinou, K. (2011). The public value of vacant urban land. *Municipal Engineer,* 164(3), 157–166. https://doi.org/10.1680/muen.9.00020
Kamvasinou, K. (2017). Temporary intervention and long-term legacy: Lessons from London case studies. *Journal of Urban Design,* 22(2), 187–207. https://doi.org/10.1080/13574809.2015.1071654
Kamvasinou, K. (2018). Documenting interim spaces as 21st century heritage. *AMPS Proceedings Series,* 15(1), 92–100.
Kamvasinou, K., & Roberts, M. (2014). Interim spaces: Vacant land, creativity and innovation in the context of uncertainty. In M. Mariani & P. Barron (Eds.), *Terrain vague: Interstices at the edge of the pale* (pp. 187–200). Routledge.
Koller, M. (2016). Adaptive planning. *Topos Magazine*. https://toposmagazine.com/adaptive-planning
LABIC. (2022). *Plano de atividades*. LABIC Barreiro Velho. https://labicbarreiro.pt/atividades/
LaFond, M. A. (2010). eXperimentcity: Cultivating sustainable development in Berlin's *Freiräume*. In J. Hou (Ed.), *Insurgent public space: Guerrilla urbanism and the remaking of contemporary cities* (pp. 122–130). Routledge.
Lee, S. J., Hwang, S., & Lee, D. (2015). Urban voids: As a chance for sustainable urban design. In *Proceedings of the 8th Conference of the International Forum on Urbanism*.
Lévesque, L. (1999). Montréal, l'informe urbanité des terrains vagues. Pour une gestion créatrice du mobilier urbain. *Les Annales de la Recherche Urbaine,* 85(1), 47–57.
Lévesque, L. (2001). The "terrain vague" as material: Some observations. *Paysages*, 16–18.
Lokman, K. (2017). Vacancy as a laboratory: Design criteria for reimagining social-ecological systems on vacant urban lands. *Landscape Research,* 42(7), 728–746. https://doi.org/10.1080/01426397.2017.1355446
Lopez-Pineiro, S. (2020). *A glossary of urban voids*. Jovis.
Luo, S. (2021). *Disclosing interstices: Open-ended design transformation of urban leftover spaces* [PhD dissertation, Delft University of Technology].

Marat-Mendes, T., Silva Lopes, S., Cunha Borges, J., & Bento D'Almeida, P. (2022). *Atlas of the food system: Challenges for a sustainable transition of the Lisbon Region*. Springer.

Mariani, M., & Barron, P. (Eds.). (2014). *Terrain vague: Interstices at the edge of the pale*. Routledge.

Marinoni, G. (2004). Parc Henri Matisse. *Lotus International,* 121, 114–121. https://www.editorialelotus.it/web/item.php?id=121

McPhearson, T., Kremer, P., & Hamstead, Z. A. (2013). Mapping ecosystem services in New York City: Applying a social–ecological approach in urban vacant land. *Ecosystem Services,* 5, 11–26. https://doi.org/10.1016/j.ecoser.2013.06.005

Metta, A., & Olivetti, M. L. (2021). *Wild & the city: Landscape architecture for lush urbanism*. Libria.

Millington, N. (2015). From urban scar to "park in the sky": Terrain vague, urban design, and the remaking of New York City's High Line Park. *Environment and Planning A,* 47(11), 2324–2338. https://doi.org/10.1177/0308518X15599294

Moniz, G. C. (Ed.). (2021). *URBiNAT – D4.2 Healthy corridor concept*. CES.

Nassauer, J. I., & Raskin, J. (2014). Urban vacancy and land use legacies: A frontier for urban ecological research, design, and planning. *Landscape and Urban Planning,* 125, 245–253. https://doi.org/10.1016/j.landurbplan.2013.10.008

Németh, J., & Langhorst, J. (2014). Rethinking urban transformation: Temporary uses for vacant land. *Cities,* 40, 143–150. https://doi.org/10.1016/j.cities.2013.04.007

Nunes, N., Björner, E., & Hilding-Hamann, K. E. (2021). Guidelines for citizen engagement and the co-creation of nature-based solutions: Living knowledge in the URBiNAT project. *Sustainability,* 13(23), 13378. https://doi.org/10.3390/su132313378

Pagano, M. A., & Bowman, A. O. (2000). *Vacant land in cities: An urban resource*. Brookings Institution, Center on Urban and Metropolitan Policy.

Petcou, C., & Petrescu, D. (2014). R-Urban: Strategies and tactics for participative utopias and resilient practices. In K. Bradley & J. Hedrén (Eds.), *Green utopianism: Perspectives, politics and micro-practices* (pp. 270–290). Routledge.

Petcou, C., & Petrescu, D. (2015). R-Urban or how to co-produce a resilient city. *Ephemera: Theory and Politics of Organisation,* 15(1), 249–262.

Petrescu, D., & Petcou, C. (2023). The role of architects in initiating, sustaining and defending urban commons in mass housing estates: R-Urban in Grand Ensembles. *The Journal of Architecture,* 28(1), 169–181. https://doi.org/10.1080/13602365.2023.2183619

Petrescu, D., Petcou, C., Safri, M., & Gibson, K. (2021). Calculating the value of the commons: Generating resilient urban futures. *Environmental Policy and Governance,* 31(3), 159–174. https://doi.org/10.1002/eet.1890

Phelps, N. A., & Silva, C. (2018). Mind the gaps! A research agenda for urban interstices. *Urban Studies,* 55(6), 1203–1222. https://doi.org/10.1177/0042098017732714

Rahmann, H., & Jonas, M. (2014). Void potential: Spatial dynamics and cultural manifestations of residual spaces. In M. Mariani & P. Barron (Eds.), *Terrain vague: Interstices at the edge of the pale* (pp. 135–150). Routledge.

Russell, B., Milburn, K., & Heron, K. (2023). Strategies for a new municipalism: Public–common partnerships against the new enclosures. *Urban Studies,* 60(11), 2133–2157. https://doi.org/10.1177/00420980221094700

Schlueter, S., & Surwiłło-Hahn, A. (2018). *Actors of urban change 2017–2019*. MitOst e.V.

Sendra, P., & Sennett, R. (2020). *Designing disorder: Experiments and disruptions in the city*. Verso.

Sikorska, D., Ciężkowski, W., Babańczyk, P., Chormański, J., & Sikorski, P. (2021). Intended wilderness as a nature-based solution: Status, identification and management of

urban spontaneous vegetation in cities. *Urban Forestry & Urban Greening,* 62, 127155. https://doi.org/10.1016/j.ufug.2021.127155

Soares, A. L., Talhé Azambuja, S., Brito-Henriques, E., & Simões, A. R. (2017). Vacant land in city: Potential functional, ecological and aesthetic role in the urban landscape. In *ECLAS Conference 2017 Proceedings*.

Solà-Morales, I. de. (1995). Terrain vague. In C. Davidson (Ed.), *Anyplace* (pp. 118–123). MIT Press.

Stavrides, S. (2014). Open space appropriations and the potentialities of a "city of thresholds." In M. Mariani & P. Barron (Eds.), *Terrain vague: Interstices at the edge of the pale* (pp. 91–106). Routledge.

Toscani, G., Carpentieri, A., Guarascio, F., & Carlino, M. (2017). BotaniCALL – Lecce (ITA). *Actors of Urban Change*. Retrieved March 5, 2023, from https://www.actorsofurbanchange.org/projects/botanicall/

Twerd, L., & Banaszak-Cibicka, W. (2019). Wastelands: Their attractiveness and importance for preserving the diversity of wild bees in urban areas. *Journal of Insect Conservation,* 23, 573–588. https://doi.org/10.1007/s10841-019-00148-8

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