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Strengthening the City Identity by Reviving the Forgotten In-Between Spaces

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Abstract This study aims to investigate the In-Between space, which can play a fundamental role as an identifying and organizing element and a container for various functions. The semantic and theoretical features of this field, as explained by thinkers, are expanded to open up broader functions and contexts for this space and to increase its conceptual load. A field that provides a suitable and fruitful platform for the imagination to fly and bridge physical structures and social realms together, embodies layers of cultural, ecological, and social meanings. The general goal of this article is to have the physical characteristics of In-Between space thought redefined and manifested, in both theoretical and physical spheres, as well as to establish how In-Between spaces can be recognized in neighborhoods and cities based on the specific identity of neighborhoods and the existing subcultures. An analytical-comparative method, along with a review of successful case studies in the field of In-Between space studies, was utilized in this research, and it is concluded that the objective and tangible manifestation of the In-Between space and its intrinsic features, with the pre-subjectivity of these spaces, can come to fruition in the architectural and material space and be accepted by the audience with all its features through meaningful interaction.

Keywords City, Identity, Space, In-Between Space, Urban Design

1. Introduction

The field, space, and In-Between space thinking in general have opened a field of studies, opinions, levels of awareness, and definitions for researchers and architects, which have always provided the ground for new theories and new interpretations due to their diversity and limitlessness. New experiences of newly discovered spaces, theoretical approaches in studies, and different physical features can each create In-Between spaces through new lenses, and this process of exploration alone has provided a new branch of features and standards in this field.

The objective manifestation of the features of the In-Between space -such as identification, spatial organization, delimitation, and demarcation- is based on thresholds, which sometimes create and produce space, that researchers have enumerated for this space over the past years, in a physical and highly conceptual way, can lead to the creation of a space that ultimately reveals the simplicity of the depth of meaning in the arena and the space between it.

The intrinsic qualities of In-Between spaces are further investigated in this research, with their functions as connectors, delimiters, and areas of transformation in urban systems examined. Through the revitalization of such spaces, important urban issues, including ecological deterioration and socio-spatial alienation, may be addressed. The importance of these spaces in urban planning and architectural design as catalysts for cultural continuity and sustainability is also emphasized.

The spatial narrative of our modern cities embodies a dialogue between their layered history and the pressures of contemporary urbanization. At the heart of this dialogue are in-between spaces. Thresholds mediate between physical structures and social life. As urbanization accelerates, these liminal zones are increasingly overlooked, leading to the erosion of their socio-cultural and ecological significance.

2. Contours of Thought: Rediscovering In-Between Spaces in Theories

The concept of "in-between space" as a critical theoretical construct for the study of spatial, cultural, and social interactions in the built environment has been extensively explored within architecture and urban planning, positing that such spaces are not voids but potent zones of interaction and transformation. These areas often gain significance beyond their tangible qualities and serve as a metaphor for change, interaction, and transmission. The relational nature of this space is emphasized by the Japanese notion of "Ma," which highlights the spaces between items as locations of interaction and opportunity [1]. This perspective is echoed in various cultural contexts, such as the courtyards of traditional Iranian architecture, which functioned as crucial hubs for establishing a shared identity and collective memory. Additionally, it demonstrated how the city naturally uses these areas, serving as dynamic extensions of the public and private realms [2].

Modern theory further articulates these zones as socially and politically charged. The idea of Thirdplace, developed by Edward Soja, which conceptualizes these spaces as a combination of a world of meaning and reality that promotes modes of communication and social interactions, is particularly noteworthy [3].

This idea is extended by post-colonial theorist Homi K. Bhabha, who views such liminal spaces as sites of cultural hybridity and negotiation, where identities are not fixed but are in a constant state of becoming [4]. Furthermore, Marc Augé's theory about In-Between spaces, which refers to them as "non-places," can also be mentioned as a critical counterpoint, describing transitional spaces like airports and motorways that are defined by anonymity and a lack of social connection. It highlights what is lost when the fundamental components of the In-Between spaces fail to fit together properly in the formation of this space, and the designed space or even the remaining space fails to foster meaningful place-making [5]. This interpretation of Marc Augé can reaffirm the intrinsic freedom of the In-Between space, and also provide semantic consolidation for its lack of directionality. In the meantime, the In-Between spaces assume an important and culture-based role that allows for the reading of space and various relationships. Also, their ability to show temporal and spatial fluidity is often associated with symbolism in transitional areas. They act as "Third spaces" in which the past, present, and future converge, gaining opportunities to reinvent and reinterpret (Figure 1).

By incorporating environmental systems into urban areas, these areas can also act as a mediator between the natural and built worlds. Soja's work highlights how these areas operate as changeable fields for community interaction and as a means of rethinking spatial behaviors that challenge inflexible urban structures. These places are framed by Thirdplace theory as either imagined or actual, providing space for the emergence of alternative social behaviors [3].

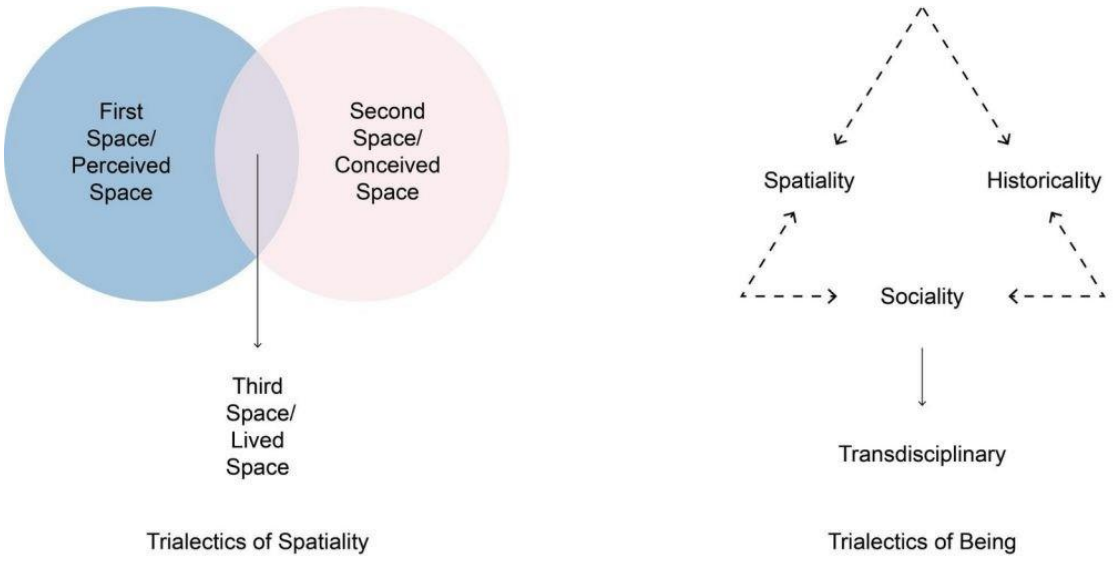

Figure 1. Diagrammatic translation of 'Third Space' Theory by Edward Soja. https://www.re-thinkingthefuture.com/architectural-community/a10494-third-spaces-in-architecture-edward-soja/

Aldo van Eyck advanced the theory by continuing to emphasize the importance of In-Between spaces as a dynamic mediator as well as a catalyst between architecture and human interaction. Van Eyck's notion of thresholds outstanding the dual role of these spaces as both connectors and separators, facilitates dialogue between private and public realms. His designs, particularly playgrounds in post-war Amsterdam, reflect this philosophy by creating environments that integrate functionality with cultural expression, thereby enabling the formation of community identity [6].

Similarly, Michel de Certeau's work on everyday practices illuminates how individuals appropriate and redefine urban spaces through their movements, creating personalized meanings in the transitional realms that exist between prescribed functions. This is further developed by James Corner, who conceptualizes in-between spaces as fluid, process-driven landscapes that mediate between natural and human systems, fostering resilience and connectivity through their layered complexity.

On the other hand, looking at the In-Between space with a focus on The Everyday Practices, Michel de Certeau redefines and reimagines urban spaces, providing specific insights into how humans move and the characteristics of appropriate urban environments, creating personalized meanings for the In-Between space. According to this view, the theory of In-Between space emphasizes the role of these transitional realms as important and active members in the formation of urban and architectural experiences. Rather than merely remaining or even being beneficial, these areas serve as a dynamic core for interactions, social and cultural exchanges, as well as personal interpretations. They give users the opportunity to change their relationship with the built environment through personalization and choices based on their needs. In-Between spaces serve as interfaces between discrete spatial entities, promoting continuity while maintaining the capacity for individual and collective meaning-making. Their transformative features prove how important they are for creating inclusive and flexible spatial practices that address the complexities of today's urban life [7].

James Corner also conceptualizes In-Between spaces as active and adaptable areas that transcend the conventional boundaries between architecture, landscape design, and the science of urbanism. His work emphasizes the fluidity and time-based identity of these spaces and supports their design as expansive frameworks that foster change, collaboration, and ecological processes. He also presents a performative perspective in which In-Between spaces act as mediators between natural and human systems. They are formed by flows of energy, water, and movement, embodying a layered complexity that fosters resilience, connectivity, and innovation. Corner's vision redefines the role of In-Between Spaces as pivotal in addressing the challenges of contemporary urban environments through integrative, process-driven design strategies [8].

These fundamental theories offer a comprehensive lens for understanding how In-Between spaces shape and are shaped by human activity. Emphasizing the multidimensional nature of In-between spaces, which are simultaneously spatial, social, and symbolic, can have the same function in several semantic contexts, and finally meet the needs of a wide range of users in different age ranges and with different cultural behaviors.

2.1. Multifaceted Realms of In-Between Spaces: Physically, Conceptually, and Symbolically

In-Between spaces, often considered as a restricted zone, are physical, conceptual, and symbolic entities that exist at the overlap of architecture, urban design, and human social life. These spaces are not just voids but transitional zones that serve as connectors, boundaries, and contexts for interaction [3]. Physically, they are characterized by being located among distinct architectural elements such as courtyards, alleys, thresholds, or passageways. Conceptually, they go beyond their materiality by embodying ideas of spatial openness, adaptability, and hybridity, enabling them to accommodate diverse social and functional activities. This substitution occurs both in meaning and in the context of the physical space, and in accordance with the project defined for implementation in that space, as well as the needs of the users, it can take on new characteristics and reflect new features. If the issue is considered from a symbolic perspective, the In-Between spaces are seen as representing the boundaries of transformative zones in which cultural, social, and ecological interactions are dynamically manifested. As Edward Soja points out in Third Space, such areas exist simultaneously as reality, imagination, and life, serving as arenas for alternative practices and narratives that challenge traditional spatial hierarchies [3].

From a theoretical point of view, these spaces have a completely specific spatial syntax that emphasizes their plurality in terms of function. The inherent ambiguity allows them to resist rigid categorization, transforming them into fertile semantic areas for the creation of creative entities. This ability to be versatile and resilient places them as vital elements in urban resilience and identity formation. By intertwining physical presence with social potential, In-Between spaces act as catalysts for interaction, providing an inclusive zone in the context of meaning for social interaction and cultural exchange, as well as emphasizing their role in fostering complexity and contrast in built environments. Koolhaas highlights these spaces as zones of ambiguity and negotiation, where boundaries blur, and traditional differences between public and private, inside and outside, or function and form are redefined [9]. Therefore, a comprehensive study and research in this field requires a multidisciplinary approach that combines different architectural theories, cultural-environmental studies, and principles of public space design from an environmental, human, and urban perspective to reveal

their latent potential.

3. Identity

The most obvious physical manifestation of the identity crisis in today's societies, especially in our contemporary architecture and especially in cities with a historical background such as Tehran or Istanbul, is the spatial disconnect of architectural and urban elements from the micro to the macro scale. In these cities, the growth and formation of regions is done by spatial organization unconsciously and according to the growth-oriented needs, and in this way, they form their identity, and this identity undergoes transformation in later periods. In Turkey, and especially in the city of Istanbul, as one of the best examples of the process of forming an identity crisis, which is due to the incomplete growth of urbanization and the incompatibility of the current situation of the city with today's urban development, the results of this crisis are witnessed throughout the old urban contexts.

The beginning of this crisis began in the 1940s, which to this day has had a significant impact on the process of formation and expansion of cities with the formation of slums as a result of the migration of Turkish people inside the country, as well as the huge influx of foreign immigrants after World War I to large and wealthy cities such as Istanbul, Izmir, and Ankara. The construction of housing and, of course, the planning of residential areas without proportion to the needs of the residents, without coordination with other neighborhoods, and on a larger scale and without an official construction permit, which became known as "Gecekondu", became an identity and urban crisis that has plagued urban managers and architects to this day. One of the basic and observable results of this crisis is the formation and birth of In-Between spaces that emerge in a repetitive process and after the renovation and revival of worn-out textures or the demolition and renovation of old buildings with new plans in different neighborhoods of these cities and turn into zones with the amount of urban and visual pollution and sometimes crime [10]. With the need to correct and resolve this identity crisis, which can overshadow all detailed long-term plans and urban development plans if not addressed, one of the main concerns of architects, urban planners, and urban managers has been to stop or slow down this process for decades.

3.1. The Impact of In-Between Spaces on Neighborhood Identity

In-Between spaces serve as shapers of connections in the urban context, providing a field for creative interactions that shape, maintain, and promote neighborhood identity. These spaces serve as both physical and semantic thresholds, facilitating the transition between the private and public realms. By hosting spontaneous public events, such as informal gatherings or communal rituals, the In-Between spaces foster community cohesion and improve a sense of belonging among residents. This interaction supports the development of unique micro-cultures within neighborhoods, distinguishing them from other urban areas. Contemporary interpretations of this concept, such as New York's High Line (Figure 2), demonstrate how these spaces can adapt to modern urban demands while retaining their connective role and how transitional spaces can be leveraged to enhance urban vibrancy and functional integrity of urban spaces [11].

Figure 2. The New York High Line, by James Corner Field Operations with Diller Scofidio + Renfro, (https://images.adsttc.com/media/images/55f6/fc4e/adbc/01bd/4b00/045e/slideshow/1677788389_dsr-highline-09-06-5384.jpg?1442249783)

The neglect or privatization of these spaces often disrupts the spatial continuity of neighborhood identity. In-Between spaces can also serve as intermediaries for both the material and imaginary dimensions of urban life [3]. In the same vein, the Tussen-Ruimte project by Jarrik Ouburg (Figure 3) shows how the reimagining of spaces as a communicative member of the urban structure with a cultural and functional identity revitalizes the local context, helps to reclaim meaning for the city, and ultimately balances the neighborhood and city environment for humans.

3.2. The Role of In-Between Spaces in Spatial Organization and Identity

In-Between spaces act as organizational axes in urban planning systems and mediate between spatial typologies in different spatial dimensions. Architecturally, they link disjointed elements and ensure physical and semantic integrity in the built environments. They act as "binding agents" that integrate public and private realms, interior and exterior spaces, and historical and contemporary contexts.

Figure 3. The Tussen-Ruimte project by HOH Architecten, https://64.media.tumblr.com/b010681108e815448674a3f3cbaceef2/49061b57c6b45902-a4/s500x750/0fc45211c32bc59f41e1200fd0c69caed326bea3.png

Aldo van Eyck's approach to the design of play spaces in Amsterdam emphasizes the ability of In-Between spaces to create social bonds and a cohesive society. These spaces create a sense of hierarchy both from a spatial and physical perspective and from the point of view of shaping boundaries. They also create visible identity indicators and highlight neighborhoods and, at the same time, foster public identity [12].

In terms of identity, In-Between spaces affect the socio-cultural essence of their surroundings. They reflect characteristics such as history, traditions, and subcultures specific to each neighborhood, thereby serving as a physical body for local identity. Neglecting these spaces often leads to the disintegration of urban environments and identity crises, as seen in cities such as Istanbul or Tehran, which quickly faced the phenomenon of urbanization and modernization. The revitalization of these spaces can only be achieved when we have a detailed understanding of their spatial, functional, and symbolic roles and ensure that they align with the cultural and social fabric of the region. In this way, the inner values of these spaces are brought to life and are integrated into the everyday narratives of urban life through this outlook and manner of interaction, positioning them as pivotal elements of identity preservation and enhancement [13].

4. Thresholds and Beyond: Rethinking Space and Its Organization

When space begins to be trapped, enclosed, shaped, and organized by the elements that make up form, architecture is created. The In-Between space can integrate the components and elements in buildings and urban spaces as an organizer, and it is an important factor as a communication space, in the spatial connection of architectural and urban elements with each other and with a single identity. A space in which the integrity of meaning, interaction in functions, and apparent differences means the framing of the inner space with thresholds that provide access to the outside. By understanding the unpredictability and fluidity inherent in In-Between spaces, Koolhaas challenges the conventional theoretical foundations of spatial organization, proposing a dynamic and layered approach that reflects the multifaceted realities of contemporary urban life. His vision in his projects emphasizes the potential of these spaces to act as generators of interaction, adaptation, and innovation, aligning with his broader exploration of architecture as a cultural and contextual response [9]. Thus, in addition to determining and controlling territory and ownership, the threshold is also responsible for receiving, interpreting, modifying, and transforming information, and it intervenes in an inherent duality both as a separator and a communicator in the spatial organization.

4.1. The Threshold

The threshold, as a transitional platform and even a transitional member, plays an important role in drawing a spatial framework and facilitates the relationship between internal and external spaces. It is not merely an external and physical manifestation of division, but a mediator of interaction, incorporating the dual but simultaneous functions of separation and connection. The threshold's role also extends beyond mere function into the realm of phenomenology. The threshold, as a potent psychological element, plays a role as a liminal zone where the experiences of being inside and outside converge. For Bachelard, crossing a threshold is a charged act that crystallizes our perception of dwelling and intensifies our awareness of space [14]. It is this experiential quality that allows the threshold to function as a vibrant theoretical entity, shaping how users perceive and interact with their surroundings.

By drawing a border that is both permeable and negotiable, it embodies the threshold of the enclosed and open dichotomy. Its ability to interpret, modify, and alter

spatial information allows it to function as a vibrant and prolific theoretical entity that influences and shapes how users perceive and shape their surroundings. This transitional area also strengthens the audience's overall experience of architecture by enhancing spatial awareness and interaction and increases the degree of connection with the environment from all aspects of human perception.

4.2. The Space

Space, as a fundamental concept in architecture, is formed and becomes meaningful when it is defined by physical and conceptual thresholds. In the meantime, the In-Between space, by acting as a homogeneous texture between architectural and urban elements, integrates different spatial functions and presents a new structure. A distinction between 'space' as an undifferentiated, open, and characterized concept by freedom of movement, and 'place' as a center of felt value and meaning, dedicated with history and identity was proposed by Yi-Fu Tuan [15], and also the transformation of abstract space into meaningful places is central to this discussion. In this context, the in-between space acts as a critical agent in placemaking. By framing and connecting different areas, it provides the structure within which amorphous space can become imbued with the personal and collective significance that defines a place.

Its essence lies in its capacity to unify and mediate, providing a platform where distinct elements converge while maintaining their individuality. Through the interplay of form, function, and meaning, space transforms into a living entity that responds to the needs of its users. Therefore, the organization of space in architecture depends heavily on the explanation of the In-Between space and its substantive quality, which acts as a platform for all-encompassing transmission and interaction.

4.3. The Spatial Organization

Spatial organization depends on the purposeful use of thresholds and In-Between spaces in order to create continuity, hierarchy, and coherence, both in the semantic dimension and in the physical context in architectural and urban environments. This field creates an environment that is both functional and meaningful by cohering and regulating the relationships between different spatial components. The threshold, as an important structural member of this organization, allows for an orderly and proportionate passage while maintaining spatial distinctions. By observing all these standards, the spatial organization goes beyond the mere arrangement of forms in its field and becomes a dynamic process that reflects cultural, social, and environmental considerations. Ultimately, the identity and appropriate function of architectural and urban environments form the direct and flawless interaction between thresholds, In-Between spaces, and larger spatial frameworks (based on the project and the actual needs of the project audience).

4.4. Exploring the Dual Role: Connectors and Separators

The simultaneous duality of In-Between spaces is known as both a connector and a separator as the heart of this space's identity. They act as arteries within the urban fabric, ensuring the fluid exchange of ideas, people, and activities [16]. From the point of view of a connecting element as well as a separator at the same time, as an intrinsic attribute, successful new and even traditional examples can be referred to as an illustration of this duality. As traditional examples, courtyards in traditional Iranian architecture (Figure 4), a place of gathering, remembrance, and rest, spread across the vast plateau of Greater Iran, from all the hot and humid regions of the Persian Gulf to the southern shores of the Caspian Sea in various forms of plan and function [2].

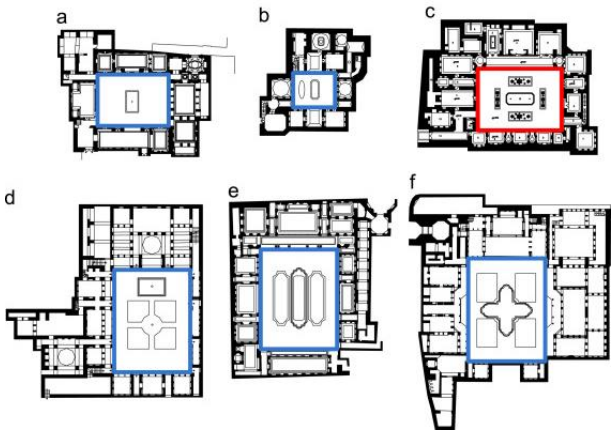

Figure 4. Six traditional Iranian courtyard houses: (a) Lotfalikhan House, Kerman; (b) Azimi House, Kerman; (c) Movahedi House, Kerman; (d) Dehdashti House, Isfahan; (e) Alam House, Isfahan; and (f) Charmi House, Isfahan [2]

Additionally, the same spatial thresholds in Venice's Piazza San Marco act as both connections and separators (Figure 5). The square's well-known arcades and colonnades create a feeling of constant movement and interaction by connecting the piazza's public space with the private, inner spaces of the nearby buildings. At the same time, these transitional components provide clear borders, aesthetically enclosing the square's expansive open space and controlling the movement of people and business. Visitors are exposed to an architectural relationship between enclosure and access in this way: the "in-between" thresholds define various areas of daily living, ritual, and commerce while uniting various facets of urban life. Piazza San Marco, then, is a prime example of how Venice's distinctive urban fabric makes use of the paradoxical duality of in-between spaces to create a dynamic cultural center that is both delineative and integrative [17].

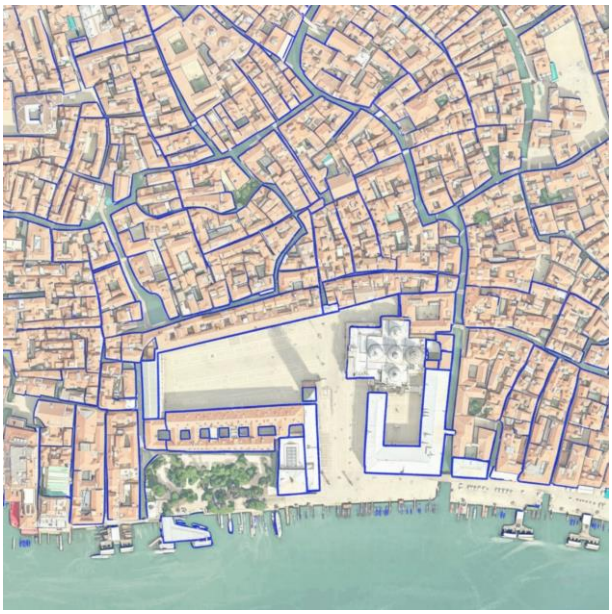

Figure 5. Piazza San Marco, Venice, highlighted with AI, by Authors, https://i.pinimg.com/736x/96/82/ee/9682eebd40f788dabfe8d9ce6d3da52f.jpg

The shared courtyards in traditional Ottoman architecture, where communal life flourished and the concept of In-Between space was explained. Urban initiatives such as New York's High Line can be mentioned as modern examples that connect disparate neighborhoods through an elevated green corridor, which is considered as a case study in this paper.

As a separator, the In-Between spaces in all aspects that it encounters and sometimes confronts, by ensuring the formation of physical security and stability, as well as the protection of privacy defined in proportion to each project, define the boundaries and spatial order for the realms. For example, thresholds, such as gates, fences, or landscape buffers, embody this process by regulating access and controlling the flow between spaces, both from the point of view of the audience of the work and from the theoretical reading of a space. This dual role underscores their complexity and versatility, making them indispensable in urban design. A balanced understanding of their connective and separating functions allows architects and urban planners to design spaces that harmonize individual and collective needs while addressing issues of density, mobility, and inclusivity.

5. Case Studies, Analysis and Scrutiny

The selection of case studies for this research was based on specific criteria designed to ensure a comprehensive and comparative analysis of In-Between spaces. The chosen projects were required to represent a diversity of scales, from micro-interventions to large-scale urban infrastructure; geographical and cultural contexts (Europe, USA, and Asia); and primary design approaches, including tactical urbanism, adaptive reuse, ecological integration, and participatory planning. Each case was chosen for its demonstrable impact on revitalizing urban areas and strengthening neighborhood identity. Distinct yet complementary insights into the physical and semantic realization of In-Between space theory were provided through this selection.

5.1. Tussen-Ruimte, Amsterdam; Promoting Neighborhood Identity

Jarrik Ouburg's project shows how the revitalization of space as a cultural and functional communicative element revitalizes the local semantic structure. Integrating these spaces into urban design strategies enables the preservation of subcultural diversity while fostering collective memory, a critical factor for sustainable neighborhood development (Figure 6).

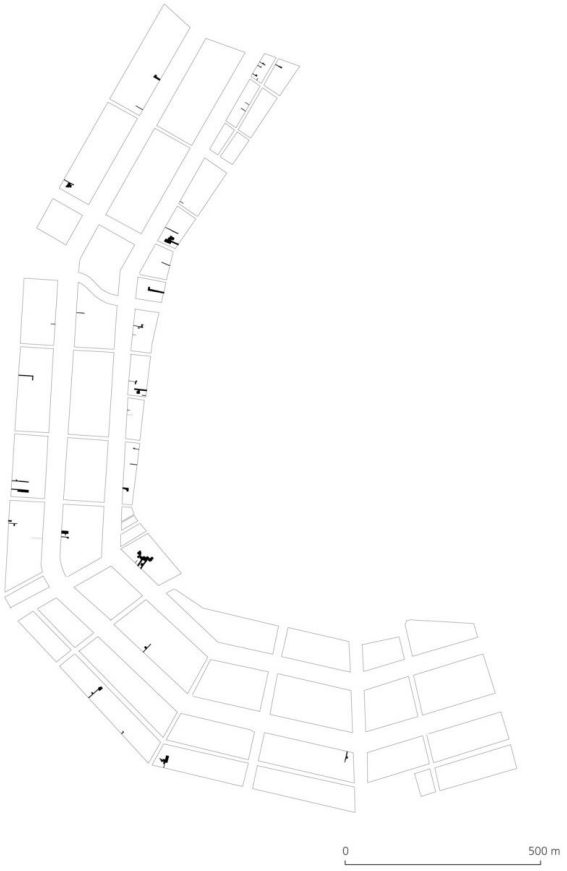

Figure 6. Tussen-Ruimte project by HOH Architecten, https://www.hoh-architecten.com/wp-content/uploads/2017/09/MAP-TUSSEN-RUIMTE-copy-2-1260x1260.jpg

The goal of the Tussen-ruimte (Dutch for in-between space) project is to place functions in the confined space that remains in the Canal district which is well controlled and protected to stimulate the possibility of new activities in this area. Temporary functions may vary from an exhibition space, a one-room hotel, a playground, a small library to an enclosed garden.

The project does not focus on the buildings in the canal district since those are subject to strict regulations but instead focuses on the space 'in between' the buildings (Figure 7). Spaces that in the past gave access to a stable or a back alley have nowadays lost their function and are used to store a garbage bag or a bike. The project also underscores a process-driven methodology, where the reinterpretation of In-Between Spaces focuses on adaptability, inclusivity, and the layering of functions to respond to the complex demands of contemporary urban environments.

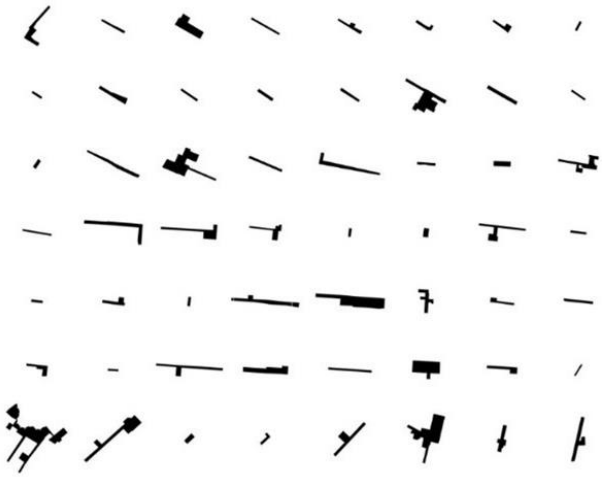

Figure 7. 56 Tussen-ruimten, Tussen-Ruimte project by HOH Architecten, https://www.hoh-architecten.com/wp-content/uploads/2017/09/Overzicht-Tussen-ruimte_VIERKANT-1260x1260.jpg

The first project focused on the smallest In-Between space: 90 cm wide, 10 m deep, and 12 m high. For the first composition, 50 perforated curtains with varying heights are hung between the two neighboring houses to help enclose this space as much as possible (Figure 8). Relying on the theoretical foundations of the In-Between space and its dimensions, which are radically and structurally placed between the two buildings, this symbolic space which was made available to the public as a cozy urban retreat to escape from the busy urban life, defines space and demarcation with a conceptual approach and easily offers the audience the experience of being in an In-Between space (Figure 9).

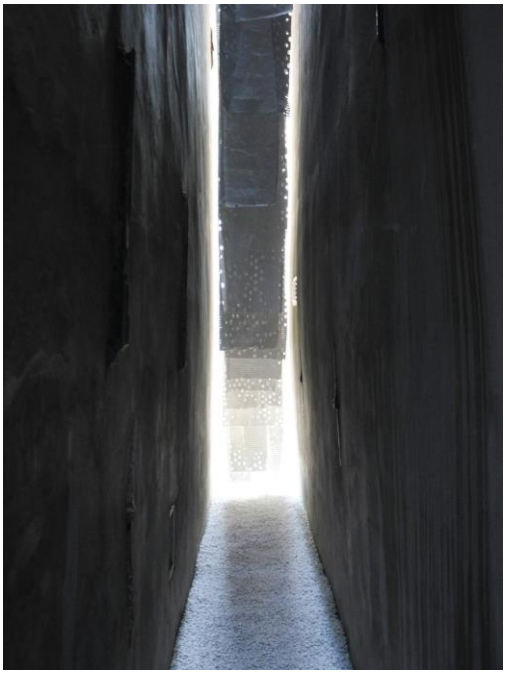

Figure 8. Tussen-Ruimten in the UNESCO protected area of Amsterdam, by HOH Architecten, https://www.hoh-architecten.com/wp-content/uploads/2017/09/EXIT2.jpg?x36605

Figure 9. Tussen-Ruimten in the UNESCO protected area of Amsterdam, by HOH Architecten, https://www.hoh-architecten.com/wp-content/uploads/2017/09/02_Tussen-ruimten-18.57.20.jpg?x36605

5.2. High Line, New York; Adaptive Reuse and Community Engagement

The High Line, a repurposed elevated railway line turned public park in Manhattan, demonstrates how neglected urban infrastructure can be transformed into vital social, cultural, and natural links. The project, completed in 2009 by James Corner Field Operations and Diller Scofidio + Renfro (Figure 10), reimagines the physical manifestation of "In Between" as a linear park that fills the gaps caused by physical, social, and cultural deficiencies. The project combines urban vegetation, social and public spaces, and installation artwork, creating a constructive relationship between man-made remains as the built environment and the new natural world created in between. Redefining itself as a symbol of urban regeneration, the High Line revitalized an abandoned industrial space and fostered neighborhood pride and cohesion by revitalizing a large-scale urban public space [16].

Figure 10. The New York High Line, by James Corner Field Operations with Diller Scofidio + Renfro, https://images.adsttc.com/media/images/55f6/fc33/adbc/01bd/4b00/045d/slideshow/1543380236_dsr-highline-09-06-4804.jpg?1442249756

From a conceptual point of view, the High Line, as a threshold and as a paradigm example of how to reclaim the In-Between spaces -a limited In-Between space between New York's past and future, urban density and urban open space, as well as between individual and collective identities- emerges from the nested and disproportionate urban infrastructures to solve the problem of identity crises and play a key role in reviving the identity of neighborhoods. The High Line represents a new typology of public space that transcends traditional dichotomies, blending ecosystem sustainability with social interaction (Figure 11). The success of these spaces lies in their ability to promote and bring to fruition the idea of "eye on the street", a mechanism through which informal surveillance increases the public safety of urban spaces and social trust [18]. The success of these kinds of projects is rooted in their ability to adapt to the updated needs of their users, providing a sense of continuity between history and contemporary urban life.

The public view for such projects identifies urban voids, underutilized or neglected spaces such as abandoned lots, infrastructural gaps, and transitional zones, as latent resources capable of fostering dynamic, multifunctional public spaces. In the designing phase, the project's approach follows a design methodology that prioritizes flexibility, participatory processes, and contextual responsiveness. It places In-Between spaces as essential elements in identity regeneration strategies as well as contemporary urban structures. By addressing the challenges of fragmentation of urban spaces and the consequences of disuse and abandonment of spaces, designers highlight their capacity to act as catalysts for connectivity, inclusivity, and urban vitality [19]. Also, this approach emphasizes the potential of these spaces to bridge

spatial and environmental divides, transforming them into hubs of interaction, adaptability, and cultural expression.

Figure 11. The New York High Line, by James Corner Field Operations with Diller Scofidio + Renfro, https://images.adsttc.com/media/images/55f6/fc58/adbc/01bd/4b00/045f/slideshow/1892220435_dsr-highline-09-06-5541.jpg?1442249809

5.3. Bishan-Ang Mo Kio Park, Singapore: Ecological and Social Integration

Completed in 2012, this project redefined the concept of In-Between spaces by emphasizing the interplay between natural and built environments (Figure 12). The park provides multifunctional spaces for recreation, social interaction, and at the same time conservation of green and natural spaces, enhancing both community resilience and environmental quality [20]. Singapore's Bishan-Ang Mo Kio Park, designed by Ramboll Studio Dreiseitl, is an example of the integration of ecological systems with urban life. This park, which has transformed a concrete drainage channel into a meandering river with lush green plains, has become one of the best examples of strengthening a vast urban area based on the In-Between space approach by creating a natural corridor in a densely populated urban environment.

Figure 12. Bishan-AMK Park before and after the BGI interventions. Source: ASLA (American Society of Landscape. Architects Professional Awards 2016a,b), [20]

By revitalizing a long-neglected, inaccessible, or even abandoned area into a vibrant public realm, the project focuses on the identity crisis that is often accompanied by the rapid modernization of neighborhoods and the resulting lack of attention to the heterogeneous consequences of projects that are disproportionate to urban needs or dimensions (Figure 13). The success of this park has been in strengthening the sense of belonging among the residents through its participatory design process, which involves the local community in the planning and development stages and is designed according to their needs and in accordance with the subcultures of the neighborhood or region.

Figure 13. Master plan of the Bishan - Ang Mo Kio Park, by DREISEITL consulting, https://images.squarespace-cdn.com/content/v1/5b008764710699f45ff1e509/1596176691699-DQXCMGI0GVMJ9GJOICVK/RSD.Singapore_Bishan+Park+c+Dreiseitl+200+copy.jpg?format=1500w

The project's dual focus on the ecology of the area in which the project is located as well as the social interactions of the project's public sphere illustrates how In-Between spaces can serve as both physical and cultural anchors, bridging the gaps between the different elements of urban life that originate from the different sources of this modern phenomenon. The project also revises these transition zones according to the principles of biophilic design and highlights their capacity to promote psychological well-being, social cohesion and ecological health. By framing In-Between Spaces as opportunities for reintroducing natural elements into the built environment, an executive view of the In-Between spaces category effectively redefines their role in creating sustainable, livable, and restorative cities [21].

According to the theoretical approach in the design of such projects, designers think of In-Between spaces as basic interfaces between two completely different worlds. Both are man-made, a water canal that becomes a problem due to urban problems, and a large park that is built according to the environmental needs of humans as an answer to the question [22]. Especially in the field of urban design and water-based architecture, they emphasize the ecological and aesthetic capacities of these transition areas, benefit from their fluidity and dynamism in their design, and support their integration as multi-purpose spaces that give life to the project's spatial identity and mediate environmental, social, and spatial relationships. This approach also underscores the role of water as a transformative element, framing In-Between Spaces as critical to achieving harmony between human activity and

environmental stewardship [23]. By combining sustainability design principles with innovative design strategies, this project highlights the capacity of In-Between Spaces to foster ecosystem resilience, enhance urban livability, and create meaningful connections between people and natural systems (Figure 14).

Figure 14. Bishan - Ang Mo Kio Park, by DREISEITL consulting, https://images.squarespace- cdn.com/content/v1/5b008764710699f45ff1e509/63c5c132-72e8-4a0f-883d-2d2968d90dbd/BAMK+PARK.jpg?format=1500w

5.4. De Ceuvel, Amsterdam; Participatory Planning for Inclusivity

De Ceuvel's project, transforming a former shipyard into a sustainable workspace and public space, demonstrates how these In-Between spaces can act as catalysts for innovation and community building. In a general and international view, the city of Amsterdam's approach to urban gaps and how to deal with this socio-environmental crisis shows a commitment to participatory planning and social inclusion. The city has repurposed unused spaces as unique opportunities for community re-engagement, using them to solve urban problems, finding answers to needs such as social segregation and environmental sustainability. Through temporary and permanent interventions, this project has demonstrated the transformative potential of urban voids in reinforcing neighborhood identity (Figure 15) (Figure 16) [24].

It is important to note that the total success of Amsterdam's urban projects lies in their ability to adapt to the diverse needs of the community around them while preserving the historical and cultural essence of the city. The participatory planning approach, as outlined by scholars such as Habraken, emphasizes the active involvement of residents in shaping these spaces. This process not only enhances the social cohesion of neighborhoods but also imbues these spaces with a sense of shared ownership and identity (Figure 17). By prioritizing inclusivity and adaptability, the results of the projects implemented in Amsterdam and their theoretical approach are an example of how In-Between space can serve as a platform for functional and cultural connectivity and address the challenges of contemporary urbanization [25].

These case studies illustrate the immense potential of In-between spaces to address urban identity crises and foster socio-spatial cohesion. The insights gained from these projects offer valuable lessons for cities worldwide, particularly those grappling with rapid modernization and the marginalization of transitional districts. Reclaiming and revitalizing these spaces is not merely an act of preservation but a dynamic process of reimagining their role in contemporary urban life.

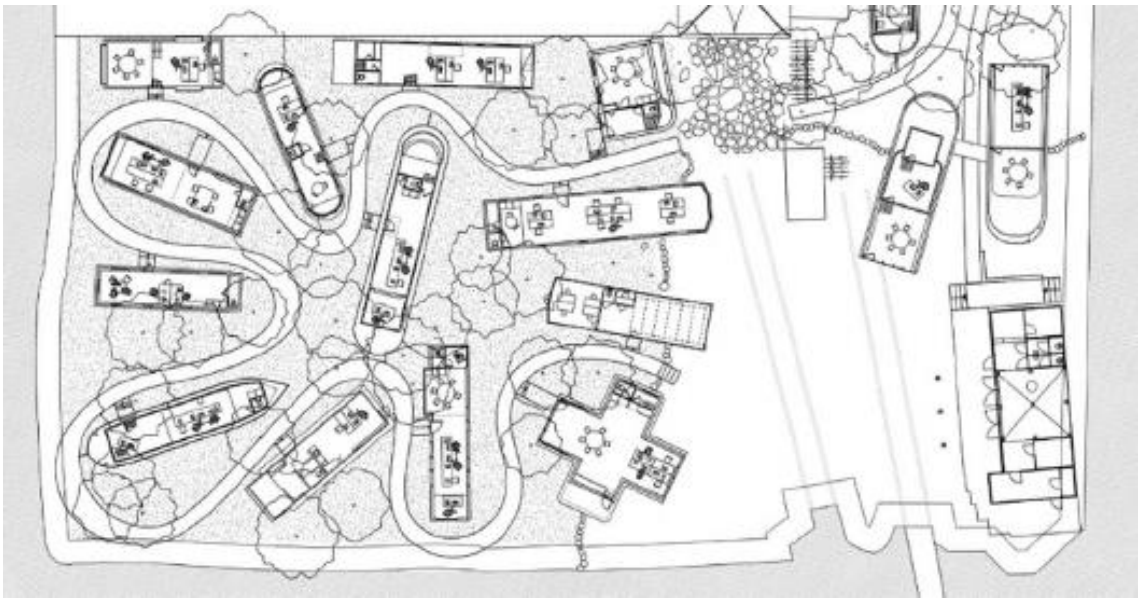

Figure 15. De Ceuvel, site plan. By space & matter architects [24]

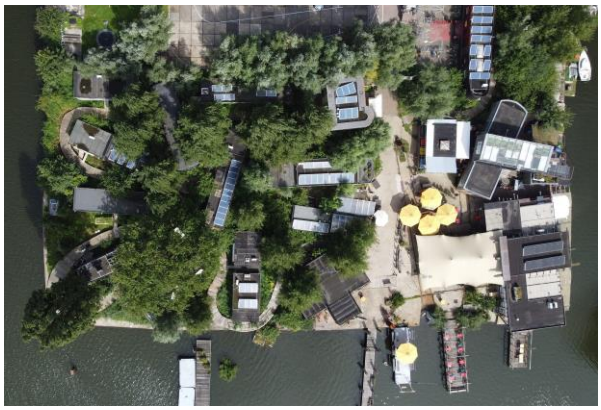

Figure 16. De Ceuvel, By space&matter architects. https://cdn.prod.website-files.com/609a7c7233bd7699ae07b5f5/614ca5b10939c301503fc223_DJI_0005-webopt.jpg

Figure 17. De Ceuvel, By space&matter architects. https://cdn.prod.website-files.com/609a7c7233bd7699ae07b5f5/60b8eac7295f5842e8ec578a_0-0%20cover%20de%20ceuvel.jpg

5.5. In-Between Spaces in Details

In-Between spaces can address urban challenges through context-specific strategies while sharing common goals. Strengthening identity, inclusivity, and sustainability are among the basic criteria that the In-Between space tries to improve the quality of life and human presence in the space by challenging and correcting the context for their formation. In this section, by examining the common criteria from the case studies intended for this article, an accurate view of the world's leading projects is attempted through the lens of In-Between space (Table 1).

5.5.1. A Comparative Approach to the Analysis of In-Between Spaces

In the continuation of the case studies, some of the intrinsic aspects of the interstitial space in this study are considered with a comparative analysis, which can be briefly addressed by putting together the studied parameters in this section. This analysis, along with the description of each project and the comparison table of all of them, can provide a complete look at the level of interaction of each project with its environment as well as users based on the standards of the In-Between space.

- Scale vs. Impact:
  - Small-scale (Tussen-Ruimte) interventions focus on symbolic, hyper-local identity, while large-scale projects (High Line, Bishan Park) address city-wide challenges like ecological resilience or economic revitalization.
  - Medium-scale (De Ceuvel) balances community needs with systemic sustainability.
- Community Engagement:
  - Projects with direct participation (Bishan Park, De Ceuvel) reported stronger social cohesion and ownership.
  - The High Line's post-design "eyes on the street" effect improved safety, but its planning phase had limited grassroots input compared to De Ceuvel.
- Sustainability Strategies:
  - Ecological (Bishan Park) and circular (De Ceuvel) approaches prioritized environmental outcomes, while the High Line and Tussen-Ruimte emphasized social sustainability (adaptability, inclusivity).
- Identity Crisis Resolution:
  - All projects redefined spatial identity; Tussen-Ruimte through symbolism, High Line via urban regeneration narratives, Bishan Park through ecological-cultural hybridity, and De Ceuvel via community-driven innovation.
- Temporality:
  - Temporary functions (Tussen-Ruimte) allowed experimentation, whereas permanent designs (High Line, Bishan Park) required long-term ecological and social balance.

Table 1. Comparison table, parameters affecting the quality of the In-Between space, (By Authors)

Criteria	*Tussen-Ruimte*	*De Ceuvel*	*High Line*	*Bishan-Ang Mo Kio Park*
Location	Canal District, Amsterdam, Netherlands	Former Shipyard, Amsterdam, Netherlands	Manhattan, New York, USA	Bishan-Ang Mo Kio, Singapore
Scale	Small (90 cm wide, micro-intervention)	Medium (repurposed industrial site)	Large (2.3 km elevated linear park)	Large (62-hectare park)
Main Approach	Activating residual spaces for cultural engagement	Participatory planning for sustainability + inclusivity	Adaptive reuse of infrastructure for social links	Ecological restoration + social integration
Design Features	Perforated curtains, modular installations	Repurposed houseboats, phytoremediation gardens	Hybrid landscape (vegetation, art, seating)	Naturalized river, biophilic design
Functions	Temporary uses (exhibitions, gardens, libraries)	Sustainable workspace, public events, cafés	Permanent Park (recreation, events, art)	Recreation, conservation, flood management
Community Involvement	Indirect (public space access)	Active resident participation in planning	Participatory design workshops	Co-design with residents
Impact on Identity	Revived neighborhood identity through symbolism	Fostered shared ownership + local innovation	Symbol of urban regeneration, pride	Strengthened belonging via cultural/ecological ties
Sustainability	Adaptability + multi-use (low environmental impact)	Circular economy + renewable energy systems	Ecosystem integration + green infrastructure	Biodiversity enhancement + climate resilience
Key Outcomes	Enhanced local diversity + public engagement	Community-driven sustainability hub	Increased safety, tourism, property values	Social cohesion + ecological health

6. Suggestions and Results

A comprehensive look at the issue of the In-Between space, especially in cities with numerous areas and spaces transitioning from tradition to modernity, has been attempted in this research, each of which could become socio-cultural hubs on a small to large scale according to its physical or semantic capacity. The process of studying In-Between spaces has always been a path full of different branches of communication with different theoretical foundations in line with multiple latent layers in this space. By examining the criteria and characteristics of all these theoretical layers together, along with the case studies mentioned in this article, a wide range of theoretical vocabulary and practical functions is created. The examination of various theoretical foundations in the field of In-Between space, as well as the exploration of successful projects and the addressing of material and identity characteristics, have resulted in findings that are presented in a new format in this work.

- **Strategic Integration into Urban Planning**

The revitalization of In-Between spaces should be one of the most pivotal processes in urban planning and socio-political policymaking of urban managers. Policymakers and architects should recognize these spaces not as residual and leftover areas, but as infrastructural hubs to foster socio-cultural interaction as well as environmental sustainability. The incorporation of these spaces into urban master plans is recommended to focus on increasing pedestrian accessibility, multi-purpose use, and the prioritization of aesthetic principles. By integrating ecological structures and paying attention to the presence of natural space in the In-Between spaces, as seen in the Bishan-Ang Mo Kio Park project, the dual advantage of environmental resilience and social participation comes to the aid of the designers at the same time, so that the results of the project are intended to be based as much as possible on the most essential human needs for living in a homogeneous and peaceful environment.

These spaces should be designed in such a way that in cities such as Istanbul or Tehran and with their rich cultural backgrounds, after the new urban divisions and the appearance of many unused spaces in the old neighborhoods, they can accommodate a variety of activities that are sometimes tied to the historical and traditional identity of the city, and at the same time maintain their contextual connection with the identity of the neighborhood. Ultimately, encouraging participatory city planning approaches with the public can ensure that residents' voices are reflected in the design process, fostering a sense of material and intellectual ownership alongside community pride.

- **Preservation and Adaptation of Historical Context**

In neighborhoods with rich historical and cultural layers, the process of reviving the In-Between spaces while adapting to the contemporary needs of urban planning and architecture must be in harmony with the main texture of the neighborhood. As noted in traditional Iranian architecture, spaces such as courtyards and alleys in the past served as vibrant interfaces between the public and private realms. Modern efforts to revitalize these areas must reinterpret these practices while respecting and

preserving their inherent cultural significance while incorporating a modern urban lifestyle.

In the meantime, architects and urban planners must adopt a smart and comprehensive approach to balancing preservation and innovation both in the physical context and in the semantic interpretations of each project. Strategies such as adaptive reuse and sensitive redesign can breathe new life into these spaces without taking too much risk on the material context of the project and without compromising their historical nature. In a contemporary example of this update, the High Line project shows how the remains of a magnificent but unused industrial monument can be transformed into high-profile public spaces that at the same time respect their historical identity– by preserving the old architectural and physical structure and restoring and strengthening it to ensure that it is resistant to future use – while also respecting their contemporary urban needs and their future.

- **Promoting Social and Cultural Inclusivity**

In order to further strengthen the potential of In-Between spaces, their design, implementation, and management should emphasize coherent and purposeful inclusivity and comprehensive and continuous access. These spaces must respond to diverse demographic groups, including children, the elderly, and marginalized communities in cities like Istanbul that have faced the problem of widespread marginalization. Therefore, the combination of design methods and standards, such as universal design principles on how to interact with urban dilemmas through In-Between spaces and culturally resonant elements in the context of cities, can ensure that these spaces are pleasant and meaningful for all residents.

Participatory design practices, like those used in Amsterdam's urban void projects, can serve as a model to reinforce the all-encompassing character of design and ensure that it meets all the needs of the modern man living in the city. By instilling a sense of belonging in locals and engaging residents in planning and decision-making processes, architects and planners can create spaces that reflect the unique identities and aspirations of each and every individual in the community. Such efforts can reduce the fragmentation of social spaces and strengthen the cultural fabric of the neighborhood.

- **The Role of In-Between Spaces in Social Cohesion**

The presence and redefinition of In-Between spaces as shared realms that encourage interaction and cooperation play a fundamental and essential role in strengthening and enhancing social cohesion in today's cities. In a theoretical approach, these spaces often function as a neutral zone - areas that are the perfect platform for the imagination to fly, and they do not belong to any direction or current, where people from different backgrounds can participate in informal exchanges and break down social barriers. Aldo van Eyck, in his theory, emphasizes the importance of such spaces as areas for human interaction and emphasizes their potential to strengthen collective bonds [6].

- **Challenges and Opportunities in Reintegrating In-Between Spaces**

The high potential of In-Between spaces makes their reintegration into contemporary urban landscapes face significant challenges. Urbanization-relentless modernization, and the predominance of the attitude of profitable developments often marginalize these spaces and the need to pay attention to them, turning them into residual or private and unused areas that do not need to be revived from the point of view of urban managers. This trend is evident in cities such as Istanbul and Tehran, where the disappearance of transitional areas has eroded the socio-cultural fabric of neighborhoods to such an extent that sometimes the revival of the In-Between space leads to a change in the overall face of the neighborhood. Therefore, addressing these challenges requires a paradigm shift in urban planning that prioritizes the relationship between functions, the acquisition of urban areas, and the strengthening of neighborhood identity over mere performance.

On the other hand, challenges always offer opportunities for innovation and a platform for creativity. Advances in spatial analysis and digital modeling enable architects and planners to map and visualize the In-Between space with unprecedented precision. These tools can also identify underused spaces and simulate their transformation into dynamic urban interfaces, which is very useful for economically justifying projects that can be illogical from the perspective of the general user.

- **Contributions to Sustainable Urban Development**

The revival of In-Between spaces aligns closely with the principles of sustainable urban development. By merging these spaces into the fabric of the city, they can achieve a balance between social, environmental, and economic objectives. Green urban lines such as Bishan-Ang Mo Kio Park dramatically increase urban biodiversity while offering recreational-interactive spaces that improve the quality of life of residents of a part of the neighborhood and the city at the same time as reforming the urban structure. On the other hand, the adaptive reuse of transition zones in projects such as New York's High Line shows how the sustainability of architecture and urbanism can coexist with the preservation and strengthening of culture, both in the context of urbanization and in the context of dealing with architectural space. In addition, In-Between spaces provide unique opportunities to solve urban challenges such as density and how to deal with climate change. These spaces contribute to urban resilience by acting as ecological buffers and heat sinks. Ultimately, the inclusion of In-Between spaces in long-term urban planning frameworks ensures that cities remain more adaptable in the face of structural uncertainties in the future and remain livable as they approach standards. As such, these spaces should be considered as vital assets in the pursuit of comprehensive

urban sustainability. The revival of In-Between spaces as a suitable platform and an essential element in addressing contemporary urban challenges, and at the same time strengthening neighborhood identity and social cohesion, plays a fundamental role in the creation of more inclusive, resilient, and sustainable urban environments.

7. Conclusions

The study was conducted with the aim of stating that the objective and tangible manifestation of the In-Between space and its inherent features, with the pre-subjectivity of these spaces, can be achieved in the architectural and material space and be accepted by the audience with all its features through meaningful interaction. The revival of In-Between spaces emerges as a transformative approach to addressing the identity crisis in contemporary urban neighborhoods. Through theoretical exploration and case studies, the multifaceted role of In-Between spaces has been demonstrated in this research as connectors, organizers, and cultural symbols. Often marginalized or overlooked in modern urban planning, these spaces have the potential to integrate ecological systems, foster social cohesion, and preserve neighborhood identity amid rapid urbanization. It is shown by the findings that In-Between spaces can act as mediators between the built environment and the socio-cultural context, incorporating a sense of place that is both tangible and conceptual.

In addition, the necessity of a multidisciplinary perspective in redefining these spaces is emphasized in this research. Inspired by the theoretical foundations of architecture, sociology, and urban planning, it is also shown by the study how the interaction of physical features and cultural narratives enriches the function and importance of In-Between spaces. The High Line cases, Bishan-Ang Mo Kio Park, and Amsterdam's urban cavities provide compelling evidence of their transformative potential if revitalized and strategically designed. These spaces are not merely physical voids, but dynamic platforms for interaction, resilience, and identity formation, which make them essential elements in sustainable urban development.

The following guidelines are proposed for architects, urban planners, and policymakers seeking to leverage the potential of In-Between spaces, based on the findings:

1. Integrate Holistically into Urban Planning: In-between spaces should be recognized not as residual gaps, but as integrated infrastructure assets. In planning comprehensive urban plans, the connectivity, accessibility, and multi-functionality of these spaces should be prioritized by architects and urban designers, ensuring that they are designed as hubs for socio-cultural and environmental activities.
2. Embrace Participatory Design: A participatory planning process is deemed crucial to ensure that spaces reflect the community's identity and needs, as demonstrated in De Ceuvel's project, which fosters a sense of shared ownership and social cohesion.
3. Balance Preservation with Innovation: In historically significant contexts, the revitalization of In-Between spaces must respect the existing cultural fabric. An adaptive reuse approach should be employed to revitalize these areas without erasing their historical identity, as exemplified by the High Line project.
4. Prioritize Ecological and Social Sustainability: Design strategies should weave together environmental and social goals. The integration of green infrastructure, as demonstrated by Bishan-Ang Mo Kio Park, is recommended to enhance biodiversity and climate resilience while simultaneously creating valuable public realms for community interaction.

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