

# Animation and Mindscapes: Enhancing Urban Sustainability through Visual Narratives

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## Abstract

This paper explores the role of animation in enhancing urban sustainability by merging visual storytelling with the concept of mindscapes, the subjective perceptions of urban spaces. Through spatial narration, character development, and immersive environments, it investigates how animation strengthens the emotional connection between individuals and the built environment, fostering a more profound sense of place and belonging. The paper examines how animated narratives contribute to preserving and reinterpreting collective memory, enabling the reconstruction of cultural and historical urban experiences. Additionally, it highlights the social participation facilitated by animation, where audiences engage in dialogue on political and social issues and contribute to narrative co-creation through digital platforms and online communities. This paper synthesizes insights from architecture, urban studies, and animation to present a theoretical framework emphasizing animation's transformative potential in reshaping urban narratives. It argues that animation not only enhances environmental awareness and sustainable behaviors but also democratizes the experience of urban environments, allowing diverse voices to participate in creating and interpreting urban narratives. This democratization empowers individuals and communities, making them feel included in the urban planning process. Through this lens, the paper demonstrates how animation can be vital in building more sustainable, inclusive, and emotionally engaging urban environments. This research employs a multidisciplinary approach, integrating qualitative analysis of animation techniques, urban design theory, and cognitive psychology. Through case studies of animated works depicting urban environments, the study analyzes how visual storytelling elements—such as spatial narration, character development, and environmental design—contribute to collective memory, a sense of place, and social participation.

## Keywords

Animation, Mindscape, Narration, Collective Memory, Sense of Place, Social

## 1. Introduction

The sustainability and continuity of urban life remain central concerns in contemporary discourse. Various tools and techniques are essential for sustaining cities, mainly historical towns. Among these, art, including animation, is a powerful tool that significantly affects urban interactions. Its influence in fostering people's attachment to their cities is undeniable. The transformative power of animation technology has propelled art into an even more influential branch, enhancing urban experience and connection. This research on the influence of animation on collective memory in urban sustainability is a beacon of hope and inspiration and a significant contribution to the field.

The mindscape is a guiding force in shaping the sustainability of cities, influencing present decisions and future aspirations. Strengthening collective memory, an essential aspect of societal identity, is crucial for fostering a more informed and conscious approach toward urban sustainability. Narration emerges as a powerful tool in this context, with stories about our cities contributing significantly to the shared understanding of their past, present, and potential future. Whether historical accounts or contemporary reflections, these narratives weave together the fabric of collective memory, fostering a profound sense of connection and responsibility among city dwellers. This paper critically examines the multifaceted characteristics of mindscapes and animation, exploring their diverse dimensions and intersections. The study aims to identify shared elements and synergies that can be integrated to enhance urban sustainability. By bridging the conceptual framework of mindscapes with the dynamic potential of animation, this research seeks to uncover innovative approaches for enriching the sustainable development of cities. Through this interdisciplinary inquiry, the paper aspires to contribute to the discourse on urban sustainability and creativity, emphasizing the transformative role of visual and cognitive tools in fostering sustainable urban environments.

## 2. Overview

The impact of these narratives is further heightened through animation, a dynamic medium that engages the audience visually and emotionally. Animation breathes life into stories, making them more accessible and compelling. Consider Mickey Mouse, a fantastical character devoid of real-world counterparts. By placing him in familiar settings like New York City or having him drive a recognizable Ford car, audiences establish a connection to their reality. This connection amplifies the story's impact. It also paves the way for exploring the significant potential of "Documentary Animation", an innovative form that combines animation's power with documentaries' factual nature in the context of urban sustainability, thereby shaping the future of urban sustainability research and application.

Through the dynamic combination of narration and animation, there is an opportunity to effectively enhance collective memory, fostering a shared commitment to sustainable urban development. As cities evolve, leveraging these creative tools to capture memories that honor the past and inspire responsible actions for a sustainable and resilient urban future becomes essential.

Based on the notion that animation's narrative features enhance collective memory, our hypothesis suggests that the amalgamation of lifelike visual storytelling elements within animated content is crucial in fortifying the communal retention and recollection of information. We propose that the dynamic interplay of realistic visual components and captivating narrative structures unique to animation generate a more profound and enduring impact on individuals' collective memory.

By exploring the role of realism in animation, considering aspects such as backgrounds resembling real locations, detailed object design, realistic character movements, and incorporation of historical events or real-world references in the story, we seek to provide valuable insights into the cognitive processes underlying the intricate relationship between animated narratives and the augmentation of collective memory. These insights could significantly advance our understanding of urban sustainability.

### 3. Literature Review

Examining various articles and research reveals that studies have been conducted in two distinct fields: animation and mindscape. In this paper, we aim to explore these sources, considering different perspectives, and ultimately focus on the effective relationship between these factors in promoting the sustainability of cities.

Cognitive Load Theory, as discussed by [Kirschner, Sweller, Kirschner, and Zambrano \(2018\)](#), centers on the capacity of working memory and its impact on learning and understanding. This theory is particularly relevant to the design of animated city scenes, as it provides guidelines for creating environments that are complex enough to be engaging but not so intricate that they overwhelm the viewer. By balancing cognitive load, designers can ensure that the animation supports effective learning and comprehension, making it a valuable tool in urban planning and education.

[Chandler \(2022\)](#) explores semiotics, the study of signs and symbols, and their use or interpretation. Semiotics can create meaningful cityscapes in animation by incorporating recognizable symbols and signs that convey specific cultural and contextual messages. This approach not only enhances the visual appeal of the animation but also imbues it with deeper significance, allowing viewers to connect with the depicted urban environments on a cultural and emotional level.

[Paivio's \(2014\)](#) Dual Coding Theory posits that people process verbal and non-verbal information separately but in an interconnected manner. Designers can enhance the understanding and memory retention of animated cityscapes by utilizing visual (animations, imagery) and textual (labels, descriptions) elements. This dual coding approach is efficient in educational settings, where it can help

convey complex urban planning concepts more clearly.

DelGaudio (1997) examines the potential of animated films to be classified as documentaries, highlighting their ability to convey nonfiction subjects through artistic reenactment. This capability is particularly relevant to urban animation, where the reflexive mode can question the adequacy of representation and emphasize the constructed nature of cityscapes. Animated documentaries, such as those produced during World War II, demonstrate how animation can effectively convey theoretical and abstract concepts, broadening the scope of documentary filmmaking and challenging traditional notions of reality.

Khajavi's (2011) framework for analyzing animated documentaries draws on semiotic theory to understand how these films communicate reality. By categorizing animated documentaries into various modes, such as "Imitative" and "Post-modern", Khajavi provides a lens through which the portrayal of real-life events and narratives in animated cityscapes can be analyzed. This semiotic approach underscores the importance of signs and symbols in conveying urban realities and enriching the viewer's understanding.

Ehrlich (2015) explores the evolving intersection of animation and documentary filmmaking, arguing that technological advancements have blurred traditional boundaries. This intersection is particularly relevant to urban animation, where visualizing otherwise un-photographable events and abstract concepts can significantly impact perceptions of reality and truth. Ehrlich's study highlights the role of animated documentaries in news media and gaming, emphasizing their growing importance in contemporary visual culture.

Skoller (2011) discusses the hybrid forms of documentary animation that allow for a broader representation of reality. These forms accommodate speculative and imaginative aspects that traditional documentary methods cannot capture, making them particularly suitable for urban animation. The experimental blending of these genres expands epistemological possibilities, and "XZ" engages viewers in new, dynamic ways, enriching the portrayal of urban environments.

DiBiase et al. (1992) and colleagues examine the role of map design in scientific visualization, emphasizing the importance of effective visual methods for exploring and communicating data. In the context of urban animation, map animation can enhance the ability to express data related to spatio-temporal phenomena, providing a powerful tool for urban planners and researchers. The dynamic variables of animated maps, such as scene duration and rate of change, can emphasize different aspects of urban environments, facilitating a deeper understanding of complex urban systems.

This paper discusses Rezaei Salarnia's (2023) research on the embodiment of childhood memories through expanded animation, seeking alternative approaches for the production and representation of animation. This exploration of multisensory perception and subjective recollections offers valuable insights into the creation of immersive and emotionally resonant urban animations. By integrating theoretical and practical knowledge, this research highlights the potential of animation to evoke atmospheric and sensory experiences, enriching the viewer's engagement.

Mindscape refers to individuals' mental or psychological perspectives toward their environment, particularly urban spaces. Previous research has approached the definition of mindscape from various perspectives. [Smith \(2011\)](#) defines mindscape as the collective mental representation and perception of a city's physical attributes, cultural aspects, and social dynamics by its residents.

The mindscape emerges as a critical element in sustaining cities within this framework. Several factors contribute to safeguarding the mindscape, including collective memory, the sense of place, belonging, and social participation ([Moazzeni & Villalobos, 2023](#)). While reviewing the literature, we found studies that employed methodologies like those proposed in the paper titled "Mindscape and Its Effect on Cities' Sustainability." For instance, [Totaforti \(2020\)](#) used surveys and interviews to examine the relationship between residents' mindscape and their behaviors towards sustainable practices in urban areas. The study concluded that a positive mindscape, characterized by a strong sense of place attachment and environmental awareness, was linked to greater engagement in sustainable behaviors.

Numerous studies have investigated the connection between architecture, the urban landscape, and city image, often focusing on architectural designs' uniqueness and morphological definitions. These studies view architecture as a spectacle of cities, reinforcing urban identities, enhancing city images, and promoting cultural tourism ([Lynch, 1960](#); [Ingersoll, 2000](#); [Ockman & Eigen, 1993](#); [Lai, 2004](#); [Calvino, 2013](#); [Vale, 2014](#)). Architects of the 1990s, such as Frank Gehry and Santiago Calatrava, created functional, iconic, and touristic landmarks that reflected their individuality as artists.

Moreover, most previous research has focused on individual perspectives, neglecting the influence of collective mindscape on cities' sustainability. For example, studies by [Xue et al. \(2020\)](#) primarily examined the individual-level impacts of mindscape on sustainable behaviors. [Moazzeni and Villalobos \(2023\)](#) explain that narration, along with factors such as collective memory and sense of belonging, significantly influences the enhancement of mindscape. The proposed paper could contribute by examining the role of collective mindscape in shaping urban policies, community engagement, and the overall sustainable development of cities.

#### 4. Research Gap

While the existing body of literature has explored the fields of animation and mindscape independently, there is a notable lack of integrated studies examining their interrelationship and collective impact on urban sustainability. Previous research on animation, such as the works of [Chandler \(2022\)](#) and [Paivio \(2014\)](#), primarily focuses on the semiotic and cognitive dimensions of visual narratives. These studies emphasize the role of animation in conveying cultural symbols, managing cognitive load, and enhancing educational tools. Similarly, research on mindscape, as highlighted by [Totaforti \(2020\)](#), underscores its significance in fostering collective memory, a sense of place, and sustainable urban behaviors. However, these studies largely treat animation and mindscape as separate constructs,

without investigating how their interplay could contribute to sustainable urban development.

Furthermore, while cognitive frameworks like Dual Coding Theory and Cognitive Load Theory have been applied to urban animation, their potential for enriching collective urban mindscapes remains unexplored. Studies by DiBiase et al. on animated maps and by Ehrlich and Skoller on the hybridization of animation and documentary filmmaking highlight the role of visual storytelling in urban contexts. However, these investigations do not delve into how such methodologies could enhance the collective psychological engagement of urban residents or influence their sustainable practices.

The current literature on mindscape often prioritizes individual-level analyses, overlooking the collective mindscape's influence on urban policy, community engagement, and sustainability. For instance, research by Xue et al. (2020) and Lynch (1960) focuses on individual perceptions of urban environments but does not explore how shared mental representations can drive systemic changes in urban governance and planning. Similarly, architectural studies emphasize iconic designs and their role in promoting cultural tourism (e.g., Gehry, Calatrava), but fail to address how such landmarks could integrate with collective urban narratives and animations to support long-term sustainability.

This paper seeks to address these gaps by examining the intersection of animation and mindscape through the lens of urban sustainability. Unlike previous studies, it aims to establish a theoretical framework that integrates the cognitive, semiotic, and narrative dimensions of animation with the collective psychological and cultural aspects of mindscape. By doing so, this research proposes an innovative approach to urban sustainability, leveraging the power of visual narratives to enhance collective memory, community engagement, and environmental stewardship. This interdisciplinary inquiry not only fills a critical gap in the literature but also offers practical insights for urban planners, educators, and policymakers in crafting sustainable and inclusive urban environments.

## 5. Methodology

This study employs a qualitative methodology, integrating insights from animation, mindscape theory, cognitive psychology, and urban sustainability to explore the potential of visual narratives in enhancing urban environments. A comprehensive literature review forms the foundation of this research, examining key theories such as Cognitive Load Theory, Dual Coding Theory, and semiotics alongside studies on mindscape and sustainable urban design. By synthesizing these diverse perspectives, the research identifies critical gaps in existing studies, particularly the lack of integration between animation and mindscape in addressing sustainability challenges.

Building on the literature review, the study undertakes a theoretical analysis to bridge these disciplines. The analysis explores how animation can leverage cognitive and semiotic principles to effectively communicate complex urban narratives

while fostering collective psychological and cultural engagement. The study also incorporates a case study analysis, examining examples of urban animations and animated documentaries that highlight sustainability principles. These case studies provide practical insights into the ways animation can represent cultural heritage, community values, and environmental challenges, offering a deeper understanding of urban dynamics.

The findings from the literature review, theoretical exploration, and case studies are synthesized to develop a conceptual framework that links animation and mindscapes as tools for urban sustainability. This framework articulates how visual narratives can enhance collective memory, foster a sense of place, and inspire sustainable practices. The proposed approach aims to serve as a guide for urban planners, educators, and policymakers, demonstrating the transformative potential of animation in creating inclusive and sustainable urban environments.

## 6. Findings

The intersection of animation and collective memory has emerged as a compelling area of inquiry as scholars and researchers endeavor to understand how animated narratives shape and enhance societies' collective memory. Drawing from an array of scholarly works, this literature review synthesizes critical insights into the impact of animated narratives on collective memory enhancement. To create a framework for our research, based on the literature review section, we classify our discussion into five sections.

### 6.1. Narration

The integration of Cognitive Load Theory, Semiotics, and Dual Coding Theory provides a robust theoretical foundation for the design and analysis of animated cityscapes. By leveraging these theories, designers can create urban animations that are not only visually appealing but also cognitively engaging and culturally meaningful. The reviewed literature underscores the potential of animation to convey complex urban concepts, challenge traditional notions of reality, and enhance our understanding of urban environments. As technology continues to evolve, the role of animation in urban planning and education is likely to expand, offering new opportunities for innovation and engagement.

Animation is pivotal in fostering social dialogue by making complex political and social issues more accessible through engaging visuals and storytelling. Works like *Waltz with Bashir* and *South Park* exemplify how animation can provoke critical reflection, offering audiences a unique lens to explore controversial and sensitive topics. These narratives entertain and challenge societal norms, allowing for discussions that might otherwise be difficult in traditional media. Animation serves as a platform for dialogue, encouraging viewers to engage with the underlying messages and reflect on broader social dynamics.

Animated environments are essential in storytelling as they establish the mood and theme and support character development, creating a narrative that

transcends mere visuals. These environments immerse the audience in the story by visually representing the plot's and characters' emotional landscape. For instance, the use of color, lighting, and texture in an environment can reflect a character's psychological state or the overall tone of a scene, such as using dark, stormy settings to convey tension or light and open spaces to represent freedom and growth. This visual storytelling strengthens the emotional depth of the narrative, allowing audiences to connect with the characters and themes on a deeper level (Beiman, 2017).

Spatial narration indicates that visitors perceive the built environment based on their subjective experiences. This approach gained prominence in the 1960s when architects and theorists sought to revive regional cultural identities overshadowed by the globalization of cultural capital. Spatial narration refers to the spatial discourse visitors experience in fragments over time and space, generating a sense of place and shaping their perception of architecture and the urban landscape. Through spatial narration, cultural and social messages can be communicated to visitors, making architecture and the built environment a discourse of events as much as a discourse of space. Nigel Coates describes this as "communication" between the built environment and humans (Coates, 2012). Canter's theory of the "visual metaphor for the nature of places" highlights a place's physical attributes, activities, and conceptions and how visitors' activities within a place generate their mental map and image of it (Canter, 1977). Punter's "components of a sense of place" and Montgomery's "policy directions to foster an urban sense of place" further develop Canter's theory (Punter, 1991; Montgomery, 1998). The notion of a sense of space explains people's relationship with the built environment and how it influences and affects them. Sense of space represents the clarity with which a piece of architecture or urban landscape can be perceived and identified (Lynch, 1984).

## 6.2. Collection Memory

With the rapid development of globalization and urbanization, the atmosphere of cultural life in the historical and cultural districts of the city has begun to change. The collective memory of the block is gradually missing, and the local crisis of homogenization appears (Gao et al., 2021). Gilbride's analysis of Marjane Satrapi's animated autobiography, "Persepolis", contributes to our comprehension of how personal narratives, sense memories, and visual simplicity in animated storytelling converge to create a potent impact on collective memory. This study adds depth to the discussion by exploring the intersection of individual and collective memories in animated autobiographical works (Gilbride, 2014).

The comprehensive exploration of animation in "The Animation Studies Reader" provides foundational insights into the medium's evolution and significance. It is a crucial resource for understanding animation's theoretical underpinnings and diverse applications, laying the groundwork for examining its role in collective memory (Buchan et al., 2020).

Hellmann's study delves into animated satire, specifically through the lens of "The Simpsons", to explore its role in reflecting and influencing collective memory, particularly in the context of the American "history wars". The research scrutinizes the dynamic interplay between animated narratives and societal memory, shedding light on the potential of animated satire to engage with and shape historical narratives (Hellmann, 2016).

Roe's work, featured in "Animated Documentary", offers a focused exploration of animated memories. This chapter contributes to understanding how animation becomes a medium for reconstructing and preserving collective memories, particularly in the documentary form. Examining animated memories provides valuable insights into how animation can serve as a mnemonic device for societies (Roe, 2013).

Majeed's study zooms in on Indian animated narratives, explicitly exploring the "creative treatment" of collective memories in "The Stitches Speak". By analyzing the intersection of animation and cultural memory, this research expands our understanding of how animated storytelling can contribute to the preservation and reinterpretation of collective memories within specific cultural contexts (Majeed, 2017).

This anthology delves into the historical dimensions of television, exploring how televised narratives contribute to the construction of collective memory. Examining the broader media landscape, this work contextualizes how animated narratives shape and reinforce collective memories as a subset of television content (Edgerton & Rollins, 2001).

Boyer's exploration of the city as a repository of collective memory and historical imagery lays the groundwork for understanding the broader socio-cultural context in which animated narratives operate. By examining how architectural entertainments contribute to the collective memory of urban spaces, this work provides a theoretical framework for understanding the interconnectedness of animation, urban landscapes, and societal memory (Boyer, 1994).

### 6.3. Sense of Place

A "sense of place" refers to the emotional and cognitive connection individuals or communities develop with specific locations. This concept often encompasses the cultural, historical, social, and environmental characteristics that make a place distinctive and meaningful. A sense of place is shaped by the personal experiences and memories people associate with a location, which can evoke feelings of belonging, identity, and comfort. The unique physical features of an environment, such as its landscape, architecture, and natural elements, also contribute to how individuals perceive and relate to that place (Tuan, 1977). This emotional attachment is critical in urban design, landscape architecture, and sustainability practices, influencing how communities are planned and maintained (Relph, 1976).

The sense of place refers to people's mental perception and conscious feelings toward their environment, leading to a unique sensory and behavioral connection

with that place. This concept not only provides a feeling of comfort but is also a cultural concept highly valued by society as it reinforces social and cultural relations within a place, reminding people of their past experiences and aiding in the development of their identity (Hesami et al., 2022).

Therefore, the sense of place is vital in creating a strong emotional attachment between people and their environment, influencing their behaviors and shaping their experiences within a particular area. Place identity refers to a specific location's unique characteristics, meanings, and symbols. It encompasses the emotional and psychological attachment that individuals have toward their environment. Building a solid sense of place identity and fostering a sense of belonging within a community enhances social cohesion, encourages active participation, and contributes to the long-term sustainability of cities (Proshansky et al., 1983; Relph, 1976).

Sense of place is a critical concept in animation, as it shapes viewers' narrative and emotional experiences. Using visual aesthetics and sound design, animators create immersive worlds that evoke specific feelings and connections. For instance, in films like *Spirited Away* by Hayao Miyazaki, the richly detailed environments serve as backdrops and integral components of character development and story progression. The magical landscapes of the spirit world reflect the protagonist's emotional journey, emphasizing how the environment can influence personal identity and growth (Miyazaki, 2014). Such carefully crafted settings allow audiences to connect deeply with the narrative, demonstrating how animation can foster a unique sense of place that resonates with viewers on multiple levels.

#### 6.4. Sense of Belonging

Belonging is an emotion that is essential to children's social development. More and more countries incorporate "belonging" into their preschool curriculum guidelines and conduct related research (Fang, 2022). The environments in a story play a key role in shaping the emotional tone, helping the audience feel a certain way as the story unfolds. For example, a quiet, dimly lit room might create a feeling of tension or sadness, while a bright, lively scene could make the audience feel hopeful or excited. These settings act like a guide, steering the audience's emotions and making the story more engaging by matching the mood with the events happening. By using these environments effectively, the audience can connect more deeply with the characters. When the surroundings reflect the characters' emotions, it becomes easier for the audience to understand their feelings and why. This emotional connection makes the characters feel more natural, allowing the audience to get more involved in the story and relate to their experiences on a personal level (Smith, 2020).

Emotional involvement in group situations is crucial in strengthening societies and empowering communities. It motivates individuals to support and guide each other in achieving group goals. A neighborhood's social characteristics also play an essential role in explaining its residents' cohesion and desire to participate in community activities (Mohammadi, 2014).

## 6.5. Social Participation

Digital platforms have revolutionized animation creation by democratizing the process, enabling a more inclusive and collaborative environment. This shift allows audiences to become co-creators, contributing directly to animated content development. A notable example is the “Crowdsourced Adventure Time” project, where fans and diverse participants collaborate to reimagine and reconstruct episodes of the popular series. Such initiatives highlight how diverse voices and perspectives can shape the final product, leading to more varied and representative content. The rise of participatory culture in digital media enables this transformation, empowering audiences to participate actively in creative production (Manovich, 2002).

Animation enhances viewer engagement by immersing audiences in a vibrant, fictional world where characters feel real and relatable. This immersive experience encourages emotional connection, allowing viewers to bond with the story and its characters. By creating environments that seem tangible and characters that evoke empathy, animation transforms viewers from passive observers to active participants, deepening their emotional investment in the narrative and enriching their overall experience (Iuppa et al., 2003).

Social participation in animation helps build strong engagement through fan groups and online communities. Fans play an active role by sharing their thoughts, creating fan art, and discussing the stories they love. This interaction allows them to contribute to the narrative, shaping how others experience and interpret the animation. Through these activities, fans feel more connected to the content and each other. This fan participation can create a more profound sense of belonging within the fandom and make the animation experience more immersive (Jenkins, 2006).

Social participation in animation has become critical in fostering deeper engagement among audiences, mainly through fandoms and online communities. These platforms allow fans to actively engage with the content by contributing their interpretations, fan art, and thoughtful discussions. Rather than merely consuming content, audiences shape the narrative, building a sense of ownership and connection with the characters and storylines. This communal interaction enhances the viewing experience as fans become co-creators in the animated world, shaping its cultural and social dimensions.

In sum, the diverse sources examined in this literature review converge to underscore the multifaceted ways in which animated narratives impact collective memory enhancement. From animated satire and documentaries to culturally specific narratives and autobiographical works, these studies collectively contribute to a richer understanding of animation’s role in shaping the collective memory of societies across various cultural and historical contexts.

The sense of place is vital in creating a strong emotional attachment between people and their environment, influencing their behaviors and shaping their experiences within a particular area. Place identity refers to a specific location’s unique characteristics, meanings, and symbols. It encompasses the emotional and psychological attachment that individuals have toward their environment.

Building a solid sense of place identity and fostering a sense of belonging within a community enhances social cohesion, encourages active participation, and contributes to the long-term sustainability of cities (Proshansky et al., 1983; Relph, 1976). Belonging is an emotion that is essential to children’s social development. More and more countries incorporate “belonging” into their preschool curriculum guidelines and conduct related research (Fang, 2022).

The environments in storytelling play a crucial role in shaping the emotional atmosphere, as they can reflect and enhance the emotional tone of the narrative. By crafting spaces that resonate with the themes and emotions of the characters, the setting can evoke stronger connections between the audience and the story. For instance, a dark, eerie forest might amplify suspense or fear, while a warm, sunlit room may elicit a sense of comfort and safety. The intentional use of environments deepens the viewer’s emotional engagement and helps convey the characters’ internal states, providing a more immersive and emotionally resonant experience (Napier, 2016).

In tourism, Cai’s definition of city images, rooted in psychological theory, addresses the perceptions held by tourists and reflected in their memories (Cai, 2002; Anderson, 2013). This definition highlights the connection between personal perceptions and the image of a city, with perceptions forming a “sense of space” through spatial narration. From a psychoanalytical perspective, this approach emphasizes subjective perceptions of places rather than focusing solely on physical architecture or urban landscapes. Table 1 presents all our findings on the connection between animation and the mindscape.

**Table 1.** Criteria of Mindscape and Animation. Source: Authors.

SUSTAINABILITY	
Narration	
<b>Mindscape</b>	<ul style="list-style-type: none"> <li>- Spatial narration refers to the <b>spatial discourse</b> visitors experience in fragments over time and space.</li> <li>- <b>Communication</b> between the built <b>Environment</b> and <b>Humans</b>.</li> </ul>
	<ul style="list-style-type: none"> <li>- Storytelling in animation uses <b>visual sequences</b>, character development, and dramatic structure to craft engaging <b>narratives</b> that <b>captivate the audience</b>.</li> <li>- This approach enhances user engagement and fosters <b>emotional connection</b> by immersing viewers in the animated world and its characters.</li> </ul>
	<b>Animation</b>
Collective Memory	
<b>Mindscape</b>	<ul style="list-style-type: none"> <li>- Synthesizes critical insights into the impact of animated <b>narratives</b> on <b>collective memory</b> enhancement.</li> <li>- <b>Storytelling converges</b> to create a potent impact on collective memory.</li> <li>- Animation becomes a medium for reconstructing and preserving collective memories, particularly in <b>documentary form</b>.</li> <li>- Animated storytelling can contribute to preserving and reinterpreting collective memories within specific <b>cultural contexts</b>.</li> <li>- Architectural entertainment contributes to the collective memory of urban spaces. This work provides a theoretical framework for understanding the <b>interconnectedness</b> of animation, urban landscapes, and societal memory.</li> </ul>
	<b>Animation</b>

Continued

<b>Sense of Place</b>	
<b>Mindscape</b>	<ul style="list-style-type: none"> <li>- Emphasizes subjective perceptions of places rather than focusing solely on physical architecture or urban landscapes.</li> <li>- Connection between personal perceptions and the image of a city with perceptions forming a <b>sense of space</b> through <b>spatial narration</b>.</li> <li>- A positive mindscape, characterized by a strong sense of place attachment and environmental awareness, was linked to greater engagement in sustainable behaviors.</li> </ul>
	<ul style="list-style-type: none"> <li>- Animated environments play a crucial role in storytelling. They establish the mood and theme and reinforce character development, elevating the narrative beyond visuals.</li> <li>- These environments actively contribute to the emotional tone, allowing the audience to connect more deeply with the characters and the unfolding story.</li> </ul>
	<b>Animation</b>
<b>Sense of Belonging</b>	
<b>Mindscape</b>	<ul style="list-style-type: none"> <li>- Allowing viewers to connect with the depicted urban environments on a cultural and emotional level.</li> <li>- Underscores the potential of animation to convey complex urban concepts, challenge traditional notions of reality, and enhance our understanding of urban environments.</li> </ul>
	<b>Animation</b>
<b>Social Participation</b>	
<b>Mindscape</b>	<ul style="list-style-type: none"> <li>- Emotional involvement in group situations is crucial in strengthening societies and empowering communities, motivating individuals to support and guide each other in achieving group goals.</li> </ul>
	<ul style="list-style-type: none"> <li>- Social participation in animation fosters engagement through fandoms and online communities, where audiences actively contribute to the narrative by sharing interpretations, fan art, and discussions.</li> <li>- Animation serves as a tool for social dialogue, encouraging reflection on political and social issues through accessible visuals and narratives, as seen in works like <i>Waltz with Bashir</i> and <i>South Park</i>.</li> <li>- Digital platforms democratize animation creation, allowing for audience co-creation and collaboration, exemplifying how diverse voices shape content in projects like <i>Crowdsourced Adventure Time</i>.</li> </ul>
	<b>Animation</b>

## 7. Conclusion

The intersection of animation and urban mindscapes offers a robust framework for enhancing urban sustainability through visual narratives. By integrating spatial narration with storytelling techniques, animation transforms how individuals interact with the built environment, fostering deeper connections between humans and their surroundings. This approach enriches collective memory, enabling the reconstruction and preservation of cultural and societal histories through visually engaging narratives that resonate across generations. As a medium, animation captures and reinterprets the essence of urban spaces, ensuring that collective memories are preserved and reimagined for future generations.

The emotional tone conveyed through animated environments is not just a narrative device but a powerful tool that enhances the audience's sense of place and belonging. It links subjective perceptions of urban spaces with a heightened sense of environmental and social awareness, fostering greater engagement with sustainable behaviors. This connection between mindscapes and animated storytelling fosters more significant engagement with sustainable behaviors. It makes people feel more emotionally and culturally connected to their spaces, strengthening

their bond with the urban environment.

Animation also plays a vital role in social participation, offering a platform for dialogue on complex urban and social issues. Through fandoms, online communities, and collaborative digital platforms, audiences actively shape urban narratives, promoting inclusivity and diverse perspectives. This democratization of content creation highlights the potential of animation to engage viewers in meaningful social and political discourse. It ensures that every voice is heard, and every perspective is valued, fostering a sense of inclusivity and belonging.

In conclusion, animation is a powerful tool for enhancing urban sustainability by shaping collective memory, fostering a sense of place and belonging, and encouraging social participation. Bridging the gap between physical environments and emotional narratives offers a unique opportunity to rethink how we experience, preserve, and engage with urban spaces. This animation and urban mindscapes synthesis ultimately contribute to more sustainable, emotionally resonant, socially engaged cities.

This research, while offering valuable theoretical insights, is limited by its reliance on qualitative methodologies and the absence of empirical validation. Without quantitative data or experimental studies, the proposed conceptual framework remains speculative and untested in real-world scenarios. Additionally, the case studies analyzed are drawn from existing works rather than original fieldwork or firsthand animation projects, which may limit the scope of practical applications. The interdisciplinary nature of the study, while enriching, poses challenges in integrating diverse theoretical frameworks seamlessly, potentially leading to gaps or overlaps in interpretation. Finally, the study focuses primarily on theoretical constructs and visual narratives, leaving unexplored the technical and technological aspects of animation production, which could be crucial for its implementation in urban planning and sustainability efforts. Future research is needed to address these limitations through empirical studies, collaborative design projects, and technological advancements.

## Conflicts of Interest

The authors declare no conflicts of interest regarding the publication of this paper.

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