

Article

Sustaining the Fabric of Time: Urban Heritage, Time Rupture, and Sustainable Development

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Abstract: This paper explores the concept of time rupture, i.e., the disruption of historical continuity caused by rapid urbanization, and its implications for urban heritage preservation, using Dongjiadu in Shanghai as a case study. Time rupture highlights the disconnection between modern development and cultural heritage, often diluting local identity and a sense of place. While it presents challenges to the continuity of urban heritage, it also creates opportunities to redefine historical narratives and enrich cultural meaning. By introducing a temporal framework, this study examines the dynamic interplay between heritage preservation and modernity, advocating for adaptive, context-sensitive strategies that move beyond static conservation methods. These strategies acknowledge the fragmented overlaps of urban timelines, ensuring that heritage sites remain vibrant, living components of urban environments. The Dongjiadu case illustrates two distinct categories of time rupture, underscoring the need for sustainable practices that harmonize cultural continuity with contemporary growth. The discussion emphasizes the importance of inclusive practices, community engagement, and the critical integration of technological advancements to address time rupture effectively. By incorporating a temporal perspective into heritage conservation, it is possible to bridge historical continuity and modern development, foster resilience in urban environments, and enable cities to adapt to rapid change while retaining their cultural essence. Ultimately, addressing time rupture through thoughtful, adaptive strategies ensures that urban heritage actively contributes to the sustainability and vitality of evolving cities.



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1. Introduction

Urban heritage is a vital aspect of our cultural and historical identity, serving as a bridge between the past and the present [1,2]. In today's world, urban heritage faces numerous challenges arising from the tensions between tradition and modernity, as well as the dynamic interplay between them [3–5]. One of the key challenges is the phenomenon of time rupture, which refers to the disjuncture between past and present that arises from the rapid pace of urban development and the changing nature of our relationship with the past [3]. As cities evolve and change, the preservation and interpretation of urban heritage must also adapt to new circumstances and challenges.

In the realm of heritage preservation, time is a crucial factor that requires careful consideration. Time plays a significant role in three aspects of heritage conservation: the concept of restoration, the sense of time, and the development of heritage [6]. A trans-temporal approach can provide a useful lens for examining the interface between urban environments and heritage perspectives, particularly in the context of sustainable

development. Cities are dynamic places where new developments can emerge within traditional environments, and unexpected phenomena can arise in everyday life. This paper examines the case of Dongjiadu in Shanghai to explore the intersection of tradition and modernity within urban heritage, with a particular focus on the challenges posed by ‘time rupture’. The concept of time rupture refers to a disruption in the continuity of time, especially as it relates to the clash between historical and modern elements [7–10].

This paper addresses the research question: How does the concept of time rupture manifest in urban heritage preservation, and how can adaptive, context-sensitive strategies be employed to address the disjunction between modern development and cultural heritage, ensuring that heritage remains meaningful and relevant in rapidly transforming urban environments? The research methodology for this study combines historical data analysis, on-site observations, and longitudinal ethnography to explore the concept of time rupture in urban heritage preservation. Over a period of four years, the study involved analyzing archival materials to understand the historical evolution of Dongjiadu, while field notes and observations documented the ongoing urban transformation. Additionally, longitudinal ethnography was used to track the social and cultural impacts of these changes, providing insights into how time rupture shapes both the physical environment and the lived experiences of local communities. This multi-method approach offers a comprehensive understanding of the complex interaction between historical continuity and modern urbanization. By examining this dynamic, the paper aims to provide a deeper understanding of the challenges and opportunities involved in preserving and interpreting cultural heritage amid the rapid evolution of urban landscapes.

2. Theoretical Framework: Understanding Discontinuity in Urban Heritage

2.1. *Heritage as a Temporal Landscape*

An archaeological approach offers a valuable lens for understanding urban heritage as a temporal landscape, wherein the past becomes an active resource in shaping contemporary urban environments. As Guttormsen points out, the method of stratigraphic excavation has popularized the metaphor of ‘time depth,’ enabling us to perceive heritage sites as multi-layered constructs where each layer represents a different period in history and a unique cultural imprint [11]. This perspective allows us to conceptualize urban heritage as a complex, stratified environment in which historical layers accumulate, overlap, and interact with the present, forming what Foucault might describe as a ‘heterotopic place’—a space where multiple times coexist within a single landscape.

By applying archaeological thinking to heritage conservation, we can develop a theoretical framework that acknowledges the long-term, temporal, and transformative character of urban heritage. Just as excavations reveal successive layers of land, an examination of heritage sites exposes layers of time, each contributing to the collective identity and continuity of the urban space. Sometimes, layers are visible through tangible structures, such as buildings or monuments, which reflect the material and aesthetic qualities valued in a specific historical period. These layers embody unity and coherence, marking specific moments in the urban fabric that are easily identifiable and often celebrated [11].

However, other layers of time remain invisible, woven into the urban landscape through intangible elements, e.g., fragments of memories, cultural practices, or anecdotes associated with past events. These invisible layers carry a storyteller’s potential, preserving the emotional and cultural connections of communities even as physical structures change or decay. These fragmented traces, though incomplete, contribute to the continuity of place and represent the temporal ‘depth’ that characterizes urban heritage.

Understanding heritage as a temporal landscape through an archaeological framework thus emphasizes the importance of recognizing both the tangible and intangible layers that define a heritage site. This perspective encourages urban planners and conservationists to view heritage not as static monuments of the past but as evolving spaces that embody various time periods and cultural meanings. This temporal approach aligns well with sustainable urban development principles, as it allows for adaptive reuse and preservation strategies that respect historical depth while accommodating the needs of modern urban life. By acknowledging heritage sites as dynamic, multi-layered temporal landscapes, cities can better sustain their cultural legacy and promote cohesive, resilient communities in the face of ongoing change.

Following the archaeological framework of time layers in heritage, the concept of 'time depth' provides a compelling way to interpret the complex, multi-dimensional spaces of urban heritage [12]. This concept reveals how the remnants of different periods, i.e., heterogeneous elements layered within a single heritage site, offer insights into the city's past, presenting traces of abandoned spaces, fragments of historical structures, and disordered remnants from different eras. These elements expose the simultaneous presence of multiple time periods within a single site, allowing heritage to act as a bridge between various epochs.

Foucault's concept of heterotopia further illuminates this idea, describing spaces such as cinemas, gardens, and theatres as places capable of juxtaposing several realities within a single physical location [13]. Heterotopias are defined by characteristics like temporality, multivocality, heterochrony, and liminality, all of which describe how urban heritage functions in modern cities. In heritage contexts, heterotopic places create a 'deviation' from current urban life, holding together distinct and sometimes contradictory temporal layers in one space. For example, a single heritage site may contain reconstructed elements, remnants of historical structures, and stratigraphic layers, each serving as a 'container of time' that holds the layered memories and identities of the place.

These fragments and traces are not mere relics of the past; rather, they are powerful symbols of the city's temporal stratigraphy, each evoking specific moments and practices that invite both remembrance and reimagination. Therefore, heritage sites serve as living archives that facilitate the cultural consumption and reinterpretation of the past in a present-day context. Through these layered, heterotopic qualities, heritage provides rich material for imagination, inviting communities to engage with history in ways that preserve continuity while also adapting to urban change. By recognizing these multi-temporal qualities, heritage conservation can adopt strategies that honour these complex time layers, maintaining the integrity of historical sites while enhancing their relevance in contemporary society.

While there has been growing recognition of heritage as a dynamic, evolving concept in the field of urban heritage studies, much of the existing research tends to focus on the spatial and material dimensions of heritage. Scholars like Smith [14] and Ashworth, Graham, and Tunbridge [15] have argued that heritage is not a static entity but rather something that evolves with time and interacts with contemporary urban realities. However, there is less focus on explicitly framing heritage as a temporal landscape, where historical layers, cultural practices, and memories coexist and shape the urban fabric over time. Existing approaches often consider heritage as evolving within a single timeframe, while the temporal complexity of how different historical periods overlap in urban environments remains underexplored. The paper contributes by proposing a temporal framework that addresses how historical continuity, modernity, and urban development interweave to form a multi-layered temporal experience, which enhances our understanding of the role of time in heritage conservation.

The temporal framework proposed in this paper offers a more holistic view of urban heritage, where time rupture is understood not just as a moment of discontinuity but also as an opportunity for reinterpretation and reinvention. While existing studies discuss the evolving nature of heritage, few explicitly engage with the temporal complexities of heritage as it is shaped by urban transformation. By conceptualizing heritage as a temporal landscape, this paper emphasizes the dynamic interplay between historical layers, modern development, and cultural memory, offering a more nuanced and integrated approach to heritage conservation.

2.2. *Timing Matters: Time Rupture and Sustainable Development*

The concept of rupture is reshaping how heritage is understood, particularly in the context of sustainable development. By focusing on time rupture, we can emphasize the intricate and multi-dimensional temporal layers of urban heritage. The phenomenon of time rupture is closely tied to urban development, where the history, cultural accumulation, and evolution of a city shape the relationship between people and place, ultimately influencing local identity and uniqueness. Urban heritage, as a critical component of the urban fabric, embodies local consciousness and serves as a medium for collective memory. However, when urbanization and heritage coexist, the interplay often blurs the sense of place and time, leading to the emergence of time rupture.

Time rupture reflects a fault in the temporal continuity of urban heritage, where historical narratives are disrupted, resulting in a fragmented experience of time and space [6]. This disconnection is both spatial and visual, manifesting in the loss of coherence and legibility in urban landscapes [16]. Similarly, the Historic Urban Landscape (HUL) framework underscores the importance of integrating heritage sites into broader urban planning to ensure harmony between historic and modern elements. Time rupture, however, exposes the challenges of achieving this integration, emphasizing the spatial and visual disconnect in urban historic landscapes. Hartog [17] argued that heritage represents a rupture between the present and the past, marked by the accelerated transition from one memory state to another. Transformative events, whether physical redevelopment or shifts in social dynamics, can be incorporated into heritage through the narratives they carry and the statuses they disrupt. These events, while disruptive, also offer opportunities to reinterpret heritage and create new meanings. Thus, time rupture serves as a critical lens for exploring the complexities of urban heritage, revealing its evolving role in sustainable development. By addressing these ruptures, urban planning can balance continuity and change, ensuring that heritage contributes meaningfully to inclusive, resilient, and sustainable urban futures.

When gentrification and commercialization transform urban heritage areas, the original functions of many traditional buildings are often replaced by commercial ventures or tourist attractions, displacing long-standing residents through renewal and relocation projects. These processes interrupt the temporal trajectory of a region, gradually eroding its uniqueness and cultural continuity. The resulting 'time rupture', a disconnection between the past and present, fragments the relationship between tradition and modernity, creating urban spaces where different temporalities and paces of change collide. This rupture disrupts the intricate layering of heritage, making it challenging to integrate historical identity into modern urban life.

In terms of urban functional zoning, the lack of clear boundaries between traditional and modern areas often exacerbates this rupture. Scenes of contrasting temporalities, where historical remnants coexist uneasily with rapid urban development, highlight the fragile relationship between people and space. Overemphasis on architectural form and aesthetic modernization, devoid of cultural or human-centered design, further alienates communities, creating a 'language gap' between architects, designers, and end-users.

Former suburbs may transform into urban centers, while old residential areas become commercial districts, resulting in spatial and functional discontinuities.

Addressing these challenges aligns closely with Sustainable Development Goal 11 (SDG 11), which advocates for inclusive, safe, resilient, and sustainable cities. Time rupture underscores the urgency of sustainable heritage management by revealing the consequences of neglecting the temporal depth and human connection in urban spaces. To achieve SDG 11, urban planning must prioritize the adaptive reuse of heritage sites, integrate historical narratives into modern developments, and foster participatory approaches that involve displaced communities in the decision-making process. By bridging the gap between tradition and modernity, sustainable strategies can repair time ruptures, ensuring that urban heritage remains a living, inclusive part of contemporary cities rather than an isolated relic of the past.

While the concept of ‘rupture’ as a disruption of historical continuity due to modern development is gaining traction, there remains a lack of comprehensive studies linking time rupture directly to sustainable development strategies in urban heritage. Many studies focus on conflicts between preservation and modernization, but few have examined how time rupture can be leveraged as an opportunity for rethinking heritage in the context of sustainable urban growth. This paper introduces the concept of time rupture as a structural framework that not only identifies the discontinuity between past and present but also explores how this rupture opens the possibility for reinterpreting cultural narratives and redefining heritage. This innovative approach brings a sustainable dimension to heritage preservation, proposing that these ruptures can provide insights into how heritage remains relevant and resilient in rapidly changing urban environments.

2.3. Traditions vs. Modernity: The Dichotomy Dilemma

The concept of time rupture corresponds to the modernity–tradition dichotomy, a prevalent framework in cultural and historical studies that divides phenomena into opposing categories of progress-driven modernity and preservation-focused tradition. Modernity is often associated with innovation, economic development, and societal progress, while tradition emphasizes the preservation of cultural practices, beliefs, and historical norms [18]. Heritage serves as the site where modernity and tradition intersect, negotiate, and often conflict. Within this dynamic, time rupture highlights the tensions that emerge when urban redevelopment privileges certain forces, typically those aligned with modernity, over the preservation of historical continuity. This imbalance creates a distorted ‘time landscape’ that fragments the temporal layers of heritage and promotes a linear, unidirectional view of time, erasing the complexities of cultural continuity.

The modernity–tradition dichotomy directly influences the status and identity of heritage. As modernization prioritizes economic growth, heritage is often perceived as a hindrance to urban development, leading to its marginalization in planning processes [14]. This perception neglects the socio-cultural significance of heritage and reduces it to static, commodified elements, undermining its potential to foster community engagement and cultural continuity. Consequently, heritage preservation risks becoming disconnected from the lived experiences and identities of local communities. Moreover, the dichotomy exacerbates socio-spatial inequalities and accessibility issues [19]. Urban redevelopment projects, such as the demolition of traditional neighborhoods or the transformation of heritage sites into commercial zones, frequently displace low-income and minority groups who lack the resources to resist these changes [20]. Such displacement not only disrupts the social fabric but also diminishes the cultural heritage embodied by these communities, eroding their sense of belonging and cohesion. This marginalization highlights the need

for inclusive planning practices that prioritize accessibility and equitable representation in heritage conservation.

The modernity–tradition dichotomy has long been a central framework in heritage studies. However, there is still a gap in approaches that look at how these temporal forces, modernity and tradition, can coexist, redefine each other, and co-evolve within a single urban environment. This paper innovates by offering a more dynamic interpretation of the modernity–tradition dichotomy, where both forces are not seen as opposing but as coexisting and evolving over time. This shift is important because it allows for a more integrated approach to urban heritage conservation, where modernity and tradition can mutually transform and reinforce each other. By proposing that heritage serves as the interface through which modernity and tradition are reconciled, this study moves beyond either/or thinking, offering a more adaptive and context-sensitive model for heritage conservation.

3. Time Rupture Reflections in Dongjiadu: A Modernity–Tradition Tug-of-War

The concept of time rupture often arises due to the tension between the desire to preserve the traditional elements of a city and the drive towards modernity and progress. This dichotomy can result in conflicting views on what should be protected and preserved as heritage and what should be demolished and replaced with new structures and developments. When reflecting on the phenomenon of time rupture, we are actually observing and exploring a modernity–tradition tug of war. By carefully considering the relationship between modernity and tradition in the context of time rupture, it is possible to develop a nuanced understanding of the challenges and opportunities that exist for heritage preservation and development.

3.1. Background

The case study of Dongjiadu in Shanghai was selected as the focus of this research due to its unique position at the intersection of historical heritage and rapid urban transformation. Dongjiadu represents a historical area that is undergoing significant redevelopment, driven by urbanization and the forces of globalization. This transformation provides a compelling context for examining time rupture, a concept that describes the disconnection and fragmentation of historical continuity that occurs when modern development intersects with cultural heritage.

As one of Shanghai’s earliest urban districts, Dongjiadu has played a crucial role in the city’s development due to its strategic location along the Huangpu River (see Figure 1). Its historical significance dates back to the Song Dynasty when it was home to a bustling market. By the Qing Dynasty’s Kangxi period, the area had transformed into a vibrant industrial hub characterized by an increase in wharves that catered to the growing sand boat and timber industries. This industrial expansion spurred significant commercial activity, with merchants trading goods such as cotton, bamboo, and malt sugar, leading to the establishment of specialized streets and wharves. The prosperity of Dongjiadu was inextricably linked to its port, which attracted a diverse merchant community and a dense population (see Figure 2).

Since the reform and opening up, Dongjiadu has become a well-known center for light textiles, drawing both locals and foreign tourists who visit to have custom clothes tailored. However, in recent years, the area has experienced substantial redevelopment as part of broader urban regeneration initiatives in Shanghai. Many dilapidated houses have been demolished to pave the way for new developments, including high-rise apartments and commercial spaces (see Figure 3). The only two maintained historic landmarks, the

Merchant Marine Hall (Shangchuan Huiguan) and St. Francis Xavier Church (Dongjiadu Catholic Church), remain on the site, surrounded by several modern buildings that present an intrusive contrast (see Figure 4). This redevelopment process has sparked conflicts and negotiations between modernity and tradition, with many residents and advocates arguing that the introduction of modern architecture and commercialization is eroding the area's cultural value.



Figure 1. The position of the Dongjiadu area (source: the author).

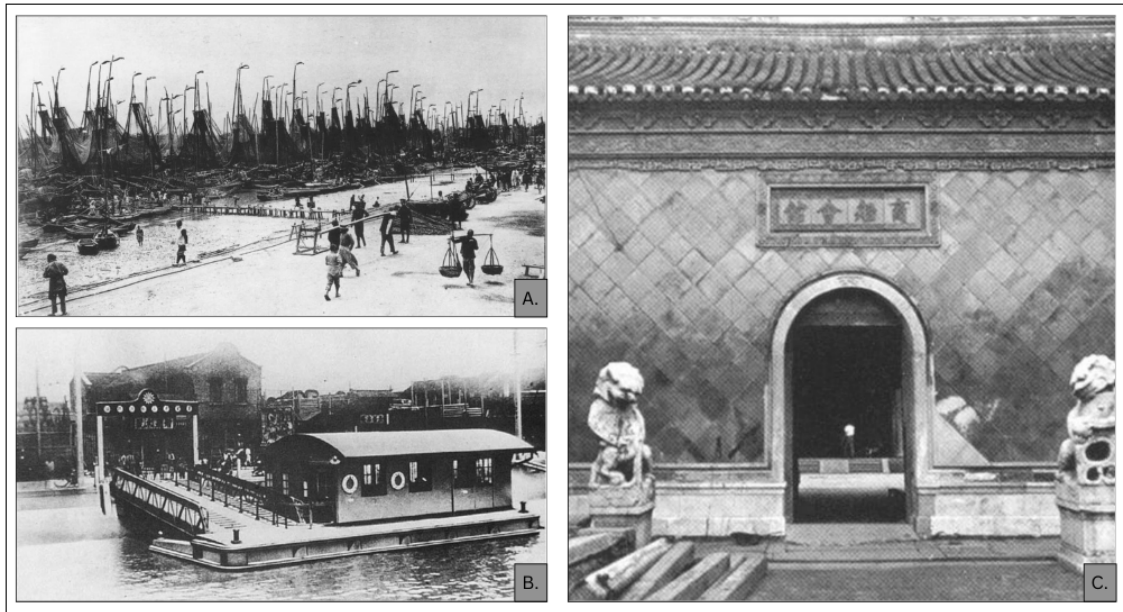


Figure 2. The history of the Dongjiadu area. (A) Masts standing on the Shiliupu Marina in Dongjiadu at the end of the Qing Dynasty. (B) Dongjiadu Wharf in the 1930s. (C) The gate of the Merchant Marine Hall in the 1950s (source: Huangpu District Archives).

The case of Dongjiadu underscores the complex interplay between modernity and tradition, providing a concrete example of the time rupture phenomenon in urban contexts. Time rupture manifests in several ways in Dongjiadu, including historical discontinuity, cultural fragmentation, and multi-layered temporalities. Once a vibrant commercial hub, Dongjiadu's identity was shaped by its modern history and traditional architecture. However, as the area is redeveloped into a modern, mixed-use district focused on finance and technology, much of its historical fabric is either erased or repurposed. This transformation disrupts the physical environment, leading to the loss of historical buildings and traditional spaces, which creates a rupture between the past and present, diluting the community's sense of place and identity.

The rapid pace of urbanization has not only led to the displacement of local communities but has also fractured cultural practices and disrupted the continuity of local narratives. As new, modern spaces emerge to replace traditional structures, a temporal disconnect is created between the lived experiences of residents and the urban landscape they once inhabited. Despite these changes, remnants of Dongjiadu's historical past, such as colonial-era buildings and local landmarks, still exist within the urban fabric. However, these historical traces are increasingly isolated amidst modern development, embodying a layered temporal reality where different periods of history coexist yet remain disconnected from one another. This juxtaposition of temporalities vividly illustrates the concept of time rupture as it occurs in rapidly evolving urban spaces.

In summary, Dongjiadu serves as an ideal case study for exploring the concept of time rupture because it encapsulates the complex dynamics between historical preservation and modern development. It also reflects broader debates and challenges faced by urban development, not only in China but also globally. This section will analyze two distinct types of time rupture from the perspectives of tradition and modernity, using the case of Dongjiadu as a focal point.

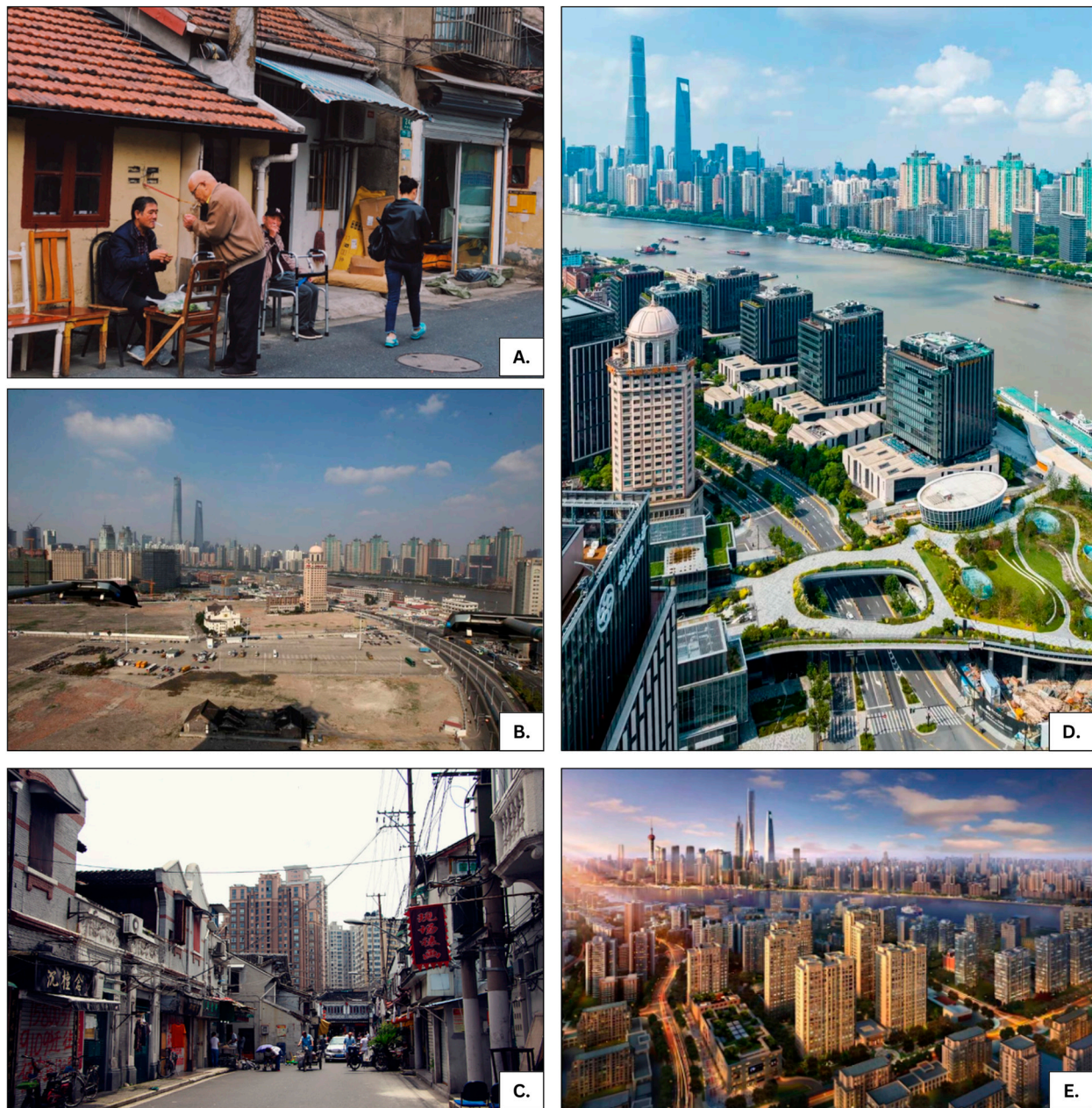


Figure 3. The regeneration of Dongjiadu. (A) Residential area before demolition. (B) Dongjiadu under demolition. (C) Dongjiadu district in 2016. (D) The new appearance of Dongjiadu. (E) The design sketch of Dongjiadu Financial City ((A) from the author, 2020; (B) from Huangpu District Archives; (C) from Shanghai Huangpu platform; (D) from <https://www.zcool.com.cn/work/ZMTc0MDg0ODA=.html>; (E) from <http://shanghai.360loushi.com/p/61228>, accessed 25 November 2024).

The preservation of heritage sites has traditionally been viewed as a way to maintain continuity with the past, ensuring that tradition remains an active and integral part of contemporary urban life. Heritage, in this sense, serves as a bridge between past and present, connecting communities to their cultural roots while enriching modern urban spaces. However, heritage preservation is fraught with conflicts and negotiations, especially as urban modernization introduces new ways of thinking about the built environment and its role in shaping the future. The concept of time rupture provides a useful framework for understanding the tensions between tradition and modernity in heritage sites, highlighting the discontinuity between historical continuity and the accelerating pace of urban development. Time rupture refers to the breakdown in the temporal continuity of heritage, where

the historical layers of a place are threatened by the pressures of modernization, resulting in a fractured relationship between the past, present, and future.



Figure 4. The two preserved historic landmarks in Dongjiadu are the St. Francis Xavier Church (also known as Dongjiadu Catholic Church), shown in the top image, and the Merchant Marine Hall (Shangchuan Huiguan), depicted in the bottom image. (Source: Kaixuan Wang, 2024).

3.2. Category 1: Tensions of Memory and Identity in Urban Transformation

In heritage conservation, time rupture manifests when the physical presence of the past is both celebrated and undermined by the demands of the present. The ongoing negotiation between preserving the integrity of traditional structures and accommodating the needs of modern urban life brings into sharp focus the challenges of creating sustainable urban environments. Modern developments and technologies are increasingly integrated into heritage sites, often disrupting the sense of temporal coherence and continuity within these spaces. The integration of these modern interventions, whether through new architectural forms, infrastructure projects, or technological enhancements, can be seen as a reflection of SDG 11, which promotes inclusive, safe, resilient, and sustainable cities. Yet, as the heritage site adapts to accommodate new functions, the negotiation of tradition versus innovation becomes increasingly complex. Thus, heritage preservation is not just about safeguarding historical structures but also about ensuring that these sites remain relevant and meaningful in the context of rapid urban change.

3.2.1. The Contradiction Between Nostalgia and Urban Modernization

The tension between nostalgia and urban modernization represents a fundamental conflict between the desire to preserve traditional ways of life and the drive to embrace modernity and progress. This conflict becomes especially pronounced in heritage sites, where the tension between maintaining the past and adapting to the future is most acute. Dongjiadu, one of Shanghai's earliest urban areas, is a prime example. For over a century, the area embodied the city's port history and community culture, yet it is now undergoing one of the largest redevelopment projects in Shanghai. Traditional architecture and the urban layout are being replaced almost entirely, leaving behind few traces of its historical form. This transformation creates a profound contradiction between those nostalgic for the old neighborhood and those who support modernization and urban growth. Proponents of

redevelopment argue that such projects are essential for the city's economic progress, while critics maintain that this transformation erases the unique historical and cultural value of Dongjiadu.

The relationship between nostalgia and modernity in this context is complex. Kant described nostalgia as a longing for a simpler, more familiar past, often rooted in an inability to accept the present [21]. Marx, on the other hand, viewed nostalgia as a reaction to the economic instability and alienation produced by capitalist development, which gradually erodes the traditional bonds between people and place [22]. Boym defined nostalgia as 'the ache of temporal distance and displacement,' a feeling of loss that arises when people are disconnected from the places and times they hold dear [23].

In rapidly modernizing cities like Shanghai, the appearance of new buildings and commercial facilities often comes at the expense of older structures and landscapes. The destruction or replacement of traditional buildings with new developments produces a tangible sense of loss. Relics, restored sites, and historical fragments, such as the boundary markers from Dongjiadu, serve as concrete reminders that the past is irrecoverable, producing what can be described as a 'sense of deprivation' [24]. This deprivation is not only physical but emotional, as it causes a discontinuity in people's sense of place and identity, leaving them unfamiliar with their transformed environment.

In Dongjiadu, as in many other areas undergoing gentrification, modernity is clearly prioritized over tradition. Even as the research is being conducted, old houses are still being demolished, and the once-vibrant community is being replaced by high-rise buildings and commercial spaces. Many long-time residents watch as their memories and way of life are wiped away to make room for the new urban landscape. Yet, some individuals are striving to preserve what they can of the area's memory. One example is Chen Bai, who collected boundary markers during the demolition process. These 'worthless stones' to the construction crews were seen by Chen Bai as physical evidence of urban history. He saved them and now exhibits them as authentic traces of the area's past (see Figure 5). This act of collecting and preserving fragments of the past speaks to a growing demand for memory in the face of rapid urban change. In many ways, these boundary markers have become part of the heritage, though their value is as much symbolic as historical. Heritage, as a form of social memory, does not merely represent history but serves as a collective narrative shaped by strong emotional connections to the past. It is not just the preservation of physical structures but also the emotional resonance those structures carry for the community. As such, heritage is not a fixed concept but a living one, often redefined in response to the needs and desires of the present.

Nostalgia, in this sense, is both a sustenance and an object of memory. While development represents the new and the future, heritage represents the old and the past. This coexistence often does not result in an overt contradiction but creates a subtle tension: one that is directly related to time rupture. The rupture of time reflects the discontinuity caused by the clash between the old and the new, a conflict that unfolds within the same social context. In heritage sites like Dongjiadu, this rupture is not only about the physical destruction of the built environment but also about the disruption of cultural continuity and the social fabric that once held the community together.

The concept of time rupture reveals the critical need for a more sustainable approach to urban development that integrates historical preservation with modern needs. The tension between nostalgia and modernization underscores the fragility of urban heritage and the importance of policies that ensure cultural continuity even in the face of rapid urban change. Rather than erasing or replacing historical landmarks, sustainable urban planning should embrace a model that retains and integrates cultural heritage into the modern urban environment, ensuring that historical narratives are respected and social cohesion is

maintained. In this way, the historical memory of places like Dongjiadu can coexist with the city's economic and technological advancements, promoting a more balanced, equitable, and sustainable approach to urban development.



Figure 5. The image depicts a boundary marker collected by Chen Bai, which is inscribed with “Tebieshi Road Boundary Marker”. (source: https://www.sohu.com/a/640830864_121282114, accessed 25 December 2024).

3.2.2. The Dispute Between ‘The Native’ and ‘The Other’

In the case of Dongjiadu, the dispute between ‘the native’ and ‘the other’ reflects a complex and nuanced issue that centers on the tension between preserving cultural heritage and the pressures of urban modernization. The term ‘the native’ typically refers to the local residents of Dongjiadu, who have long-standing historical and cultural ties to the area. These residents often embody a deep sense of place rooted in both the physical landscape and community memory. Conversely, ‘the other’ includes external actors such as government officials, real estate developers, and investors, whose interests and priorities may not always align with those of the native residents [14]. These external groups often drive urban development projects that may conflict with the desire to preserve the cultural and historical integrity of the area. The argument between the native and the other is a central element of the gentrification and urban renewal processes unfolding in Dongjiadu. However, the lines are not always clearly drawn between these groups, as the interests of various actors frequently intersect. For example, some government officials and developers argue that their projects benefit local residents by providing better housing, amenities, and economic opportunities. In contrast, many long-time residents view these changes as displacement that erases their social fabric and cultural memory [20]. In this sense, the conflict between the native and the other highlights the contradictory nature of urban development, where the need to balance economic growth with the preservation of cultural heritage becomes increasingly difficult.

This tension is central to debates in cultural heritage research, where questions of whose heritage is being preserved and who benefits from this preservation often arise [25]. The time rupture concept is key to understanding these dynamics. Urban renewal disrupts the continuity of local cultural heritage, which is often deeply tied to specific communities and their collective memory. The flow of people into urban spaces further complicates this, as large-scale migration and gentrification dilute the connection between the city's historical heritage and its new inhabitants [26]. In cities like Shanghai, this displacement of local communities and the marginalization of cultural practices, such as the Shanghai dialect, illustrates the ongoing process of cultural erosion.

Historically, the development of large cities has been driven by the influx of people, goods, and ideas, which has contributed to their growth and diversification. In this way, the city becomes a 'strange concept,' an amalgamation of multiple cultural and temporal influences [27,28]. In Shanghai, this heterogeneity forms part of the city's vitality but also exacerbates the fragmentation of urban time. The tensions between the native's attachment to the past and the other's focus on the future underscore the uneven integration of historical continuity with contemporary urban aspirations.

Reaching a resolution between the perspectives of 'the other' and 'the native' is a significant challenge in Shanghai. For 'the other,' the city is viewed as trendy, cutting-edge, and international, a place defined by modernity and global capital. This view often contrasts with the nostalgic attachment of 'the native,' who values the history and memory embedded in the city's built environment. As Shanghai undergoes rapid development, 'the other' increasingly shapes the city's urban time state, leading to the erosion of local histories in favor of a more globally oriented, modern identity [29]. Against the backdrop of spatial heterogeneity, i.e., the coexistence of different temporal and social realities within the same urban space, the concept of time becomes misaligned. The overlapping temporalities and the lack of continuity between past and present only further aggravate the time rupture in Shanghai's heritage environment. The disruption of local memory and the tension between different social and cultural time zones underscores the challenges of sustainable urban development. Therefore, urban heritage cannot simply be a matter of preserving physical structures; it must also address the social dynamics and cultural continuities that give these spaces their meaning and significance.

3.2.3. Amnesia and Pseudo-Memories of Urban History

Urban amnesia refers to the process by which modern construction systems, often transplanted from external contexts, reshape local urban environments, leading to a delocalization trend. This transformation often results in the loss of local characteristics, including architectural styles, development trajectories, and cultural symbol systems. In Shanghai, the rise of a multi-center urban model has contributed to the abandonment of the city's original historical memory, recoding its landscape and culture into commodified open spaces. These new spaces prioritize consumer culture and visual performance, disconnecting from the locality's cultural roots. The continuity of time and place is disrupted, and the newly constructed spatial-temporal relationships often become superficial displays devoid of historical substance. In the context of urban heritage protection, the fragmentation and rearrangement of historical memory to meet current commercial or political needs is common. This process often results in commercialized heritage that serves as a pseudo-memory of urban history, focusing more on aesthetic representation and tourist attraction than on authentic preservation [15]. In this way, the symbolic reconstruction of urban heritage fails to capture the depth of individual and collective memory, creating simulated narratives that distort the true historical and cultural context.

The complex relationship between heritage preservation and urban development in Dongjiadu exemplifies how urban amnesia and pseudo-memories are produced. Rapid urbanization and large-scale demolitions have resulted in the loss of many historic buildings and cultural landmarks, leading to a form of collective amnesia where the area's authentic past is erased. At the same time, efforts to create a 'pseudo-history' for commercial and touristic purposes further distort the historical narrative. Historical elements are selectively preserved or reconstructed to align with political or economic agendas, creating a sanitized and often exaggerated version of the past. Currently, only two structures, the Merchant Marine Hall (Shangchuan Huiguan) and St. Francis Xavier Church (Dongjiadu Catholic Church), remain on their historical sites, while much of the surrounding historic architecture has been demolished. This selective preservation reflects a politically motivated approach, prioritizing landmarks deemed culturally significant or officially relevant while ignoring less prominent but equally meaningful sites. Such practices contribute to the dislocation of historical memory, where heritage becomes a curated product rather than a true representation of the past. The result is a pseudo-memory of Dongjiadu's history that undermines the connection between its present and past, fostering a time rupture in the cultural and spatial continuity of the area.

The delocalization of urban environments and the symbolic simulation of memory in spaces like Dongjiadu represent a broader trend in urban heritage management. Heritage spaces themselves do not 'possess' memory, but they play a crucial role in constructing and sustaining cultural memory. As Mumford [30] observed, urban space functions as the 'best memory organ,' capable of condensing, storing, and transmitting human civilization. This function relies on the temporal continuity of historical elements, which allows urban contexts to 'spread' over time and connect past, present, and future. However, in modern urban transformations, this spread is often interrupted, with delocalization and symbolic simulation distorting the perception of time and place. In Dongjiadu, the destruction of historical structures and the creation of sanitized heritage spaces not only diminish cultural authenticity but also dislocate the temporal framework of urban memory. This distortion results in a fragmented and commodified representation of the past that lacks emotional and historical resonance for local communities. These pseudo memories, though intended to serve as cultural landmarks, ultimately contribute to a superficial understanding of heritage, prioritizing external consumption over internal meaning.

The phenomenon of urban amnesia and pseudo-memory underscores the need for a more sustainable and inclusive approach to heritage preservation. To address the time rupture caused by delocalization and symbolic memory production, urban heritage practices must prioritize authenticity and cultural continuity. Authentic preservation in Dongjiadu and similar sites requires a nuanced approach that considers both physical structures and the intangible cultural connections they represent. Instead of focusing solely on selective preservation, a more inclusive strategy should recognize the cultural significance of less prominent landmarks and engage local communities in decision-making processes. Participatory heritage management can foster a deeper connection between people and place, ensuring that heritage sites serve as living components of the urban fabric rather than static symbols for external consumption. Furthermore, adaptive reuse strategies can mitigate the effects of time rupture by integrating historical structures into contemporary urban life in meaningful ways. For example, repurposing existing buildings to serve modern functions while preserving their historical essence can balance the demands of economic growth and cultural preservation. By embracing these sustainable practices, cities like Shanghai can protect their heritage environments from becoming mere 'memory factories' and instead allow them to function as dynamic spaces that bridge the gap between tradition and modernity.

3.3. Category 2: The Multi-Dimensionality and Fragmentation of Time in Urban Spaces

Urban spaces are dynamic and constantly evolving, with layers of history and memories that are intertwined with the present. Time in urban spaces is multi-dimensional and fragmented, with different periods and experiences coexisting in the same place. The past, present, and future are all present simultaneously in urban spaces, creating a rich and complex landscape of history and culture. In this category, we explore how time is experienced and represented in urban spaces and how the fragmentation of time affects the perception and preservation of historical and cultural landmarks. We also examine the ways in which modernity is transforming the experience of time in traditional urban spaces and the implications of these changes for the conservation and development of urban heritage sites.

3.3.1. The Mobility of Urban Space

The mobility of urban space has significantly weakened traditional administrative boundaries and disrupted established social relations. Human activities now transcend the limitations of fixed geographical spaces, leading to a reconfiguration of place dynamics. This phenomenon suggests a contradiction between flow space, i.e., the non-historical, networked spaces that are fluid and adaptable, and the actual, physical space, which is rooted in historical contexts. The rise of non-historical, networked flow spaces as a dominant force in urban development often imposes its logic on historically significant places, resulting in the erosion of the relationships between spaces, their historical significance, and the communities that inhabit them. The growing disconnect between places and people, often seen in rapidly urbanizing areas like Shanghai, is a direct consequence of this increasing mobility. The sense of place, which is defined by an emotional attachment and social memory, contrasts with the more superficial and transient nature of landscape and space. While landscapes and spaces are experienced visually, places are formed through repeated encounters and complex associations that people develop over time [31]. In Shanghai, this relationship between individuals, groups, and places has become more tenuous as people participate in multiple, often fragmented, discourse communities, leading to an unstable sense of place. As a result, urban spaces now give rise to overlapping and often conflicting place identities [32].

In the context of Dongjiadu, the mobility of urban space refers to the dynamic and flexible nature of the area, which has undergone significant transformations in response to the evolving needs of Shanghai's residents and businesses. Historically a commercial hub, Dongjiadu was shaped by the needs of merchants and traders, with its urban space designed to facilitate their activities (see Figure 6). Over time, however, the area has experienced profound changes, shifting from a traditional commercial center to a modern, mixed-use development with a new focus on finance and technology. This ongoing transformation reflects the mobility of urban space, where physical structures and functions are continually added, altered, or removed in response to changing demands and urban pressures.

However, this mobility also presents significant challenges for heritage preservation and the maintenance of cultural identity. As the area evolves, the rapid changes have led to the displacement of traditional cultural practices, leaving behind a void in historical memory. The rise of commercialized heritage sites designed to meet economic goals has often resulted in the symbolic simulation of urban memory. In this process, heritage is reduced to superficial symbols, losing its deeper historical and cultural significance [33]. This process not only undermines the authenticity of urban heritage but also exacerbates the time rupture in the city's historical narrative, making it difficult to preserve a coherent and continuous understanding of the past amidst rapid urban change.



Figure 6. The once-flourishing shops in Dongjiadu are now in decline, as depicted in the image showing the façade of a custom suit store that had already experienced significant deterioration at the time the photo was taken. (source: Kaixuan Wang, 2020).

The mobility of urban space is intrinsically tied to globalization, which has turned cities into spaces for capital accumulation. Advanced communication and transportation technologies have accelerated the flow of capital, goods, and people, promoting the restructuring of urban physical spaces, social structures, and industrial functions [34]. In Shanghai, this process has intensified with the city's emergence as a global financial hub, where economic imperatives often take precedence over the preservation of historical or cultural contexts. The rapid pace of urban transformation, fuelled by globalization and the shifting needs of capital, frequently leads to the disruption of historical time. This phenomenon is a form of time rupture, where the deep historical connections that give meaning to places are displaced by a linear narrative of modern progress and development. The erosion of historical continuity results in a fragmented urban experience, where the city's heritage is often overshadowed by the immediate demands of economic growth and technological advancement [27]. In Dongjiadu, this rupture manifests in the selective preservation of historical sites, where only certain elements of the past are maintained, often for touristic purposes, while the larger cultural landscape is erased.

3.3.2. Multi-Dimensional Time in the Urban Environment

Multi-dimensional time in the urban environment refers to the simultaneous coexistence and interaction of various historical periods, temporalities, and cultural narratives within the same physical space. In the case of Dongjiadu, for example, the remnants of Shanghai's colonial past and the city's rapid modernization and globalization in the present day exist side by side, creating a dynamic and layered temporal landscape (see Figure 7). This coexistence of different temporal layers in the urban fabric adds complexity to the meaning of the city's spaces. It reflects both the continuity and evolution of the city's history while also highlighting the conflicts and transitions that have occurred over time. In this sense, multi-dimensional time challenges the conventional linear and homogeneous concept of time, suggesting that time is not a unidirectional flow but rather a multifaceted and heterogeneous phenomenon that shapes urban spaces in diverse ways.



Figure 7. The old St. Francis Xavier Church and the surrounding newly built building. (source: Kaixuan Wang, 2020).

Significant historical events and periods of transformation introduce new dimensions into the temporal landscape of a city. These events often establish new relationships between the present and the past and, in many cases, lead to a sense of rupture or disjunction between them [35]. The demolition of older structures, the construction of new ones, or the shift in economic and social functions all contribute to the creation of new temporal realities in urban spaces. As a result, the present is no longer simply a hub connecting the past and future but rather becomes a rupture between the two, reflecting the tension between historical continuity and modern change. This rupture, while contributing to the fragmentation of time, also presents an opportunity for reinterpretation. It is a space where new ideas, expressions, and meanings emerge. The present thus offers a space for historical narratives to be challenged, redefined, and reinvented. These ruptures can lead to the formation of pseudo-memories, where the past is selectively remembered or symbolically reconstructed to fit the needs of the present, often for commercial or political purposes [15]. This phenomenon is particularly pronounced in rapidly modernizing cities, where historical authenticity may be compromised in favor of creating spaces that are more aligned with globalized modernity.

The concept of multi-dimensional time raises important questions about heritage conservation and management. As urban environments evolve, there is a growing need for a comprehensive and integrated approach to heritage preservation that recognizes and accommodates the different temporal layers embedded in urban spaces. This approach must balance the preservation of historical authenticity with the values and needs of the present and future. Heritage, in this context, becomes a dynamic process rather than a static object; it is continuously reinterpreted through the interaction of past, present, and future. The challenge lies in maintaining the integrity of historical sites while allowing them to evolve in response to the needs of contemporary society. Urban heritage has a unique space-time context that not only retains the traces of history but also has the potential to

accommodate new uses and meanings. As Bhabha [36] suggested, modernity is always intertwined with specific historical and cultural conditions, and the symbols of modernity themselves are constantly redefined with each repetition of history. This hybridization of time reflects the heterogeneous characteristics of urban space, where past and present are in constant dialogue, shaping the city's identity in multiple, often contradictory, ways.

In Dongjiadu, this challenge is particularly pronounced, as the area has been subject to both rapid urbanization and the preservation of certain historical landmarks. The selective preservation of buildings like the Merchant Marine Hall and the St. Francis Xavier Church represents an effort to retain a part of the area's historical memory, but this preservation is often at odds with the broader forces of commercialization and modernization that seek to transform the area into a global financial hub. As a result, the historical memory of Dongjiadu is fractured, with some elements of the past preserved while others are erased or transformed to fit the demands of new economic realities.

3.3.3. The Accumulation of History and the Fragmentary Nature of the Individual

The accumulation of history in the urban environment refers to the continuous sedimentation of historical events, cultural practices, and spatial transformations over time. These layers of history are embedded in the physical environment, e.g., in buildings, streets, and other urban structures, as well as in the intangible aspects of culture, such as traditions, social practices, and collective memories. Together, they form a rich and multifaceted urban narrative that represents the long-term evolution of a place. However, the individual's experience and perception of the city are often fragmentary, shaped by personal experiences, social background, cultural identity, and individual interests. This tension between the macro-level accumulation of history and the micro-level fragmentation of individual perception underscores the complexity of urban heritage.

Foucault's perception of history as a continuity of past, present, and future can be applied to the discussion of urban heritage. Heritage, whether tangible or intangible, represents a vast network of accumulated histories that transcend individual lifespans. It embodies the interwoven temporalities of different eras, linking them through a continuous narrative that shapes the identity of a place. The scale and depth of this historical network are beyond the grasp of any single individual, making urban heritage a macro-temporal phenomenon. Unlike individual memories, which are finite and inherently fragmented, heritage persists across generations, creating a collective memory that bridges the temporal gaps left by individual experiences.

As Giddens [37] observed, individual time is linear and irreversible, bounded by the constraints of personal life. By contrast, the 'time of heritage' flows differently; it is cyclical, cumulative, and multi-dimensional. The routine activities and events of daily life may appear disconnected from the grand narrative of urban history, but they contribute to the ongoing accumulation of cultural and historical meaning. While personal narratives are often lost with the passing of individuals, urban heritage serves as a repository for collective memory, preserving fragments of individual stories and weaving them into a broader historical fabric.

In rapidly transforming urban environments such as Dongjiadu, the tension between historical accumulation and individual fragmentation is particularly pronounced. The area's rapid urbanization and the displacement of local communities have disrupted its historical continuity, resulting in a loss of collective memory. As traditional neighborhoods are replaced by modern developments, many residents find themselves disconnected from the places that once anchored their personal and communal identities. The fragmentary nature of individual experience becomes evident as people's relationships to the urban environment are shaped by disjointed memories and transient interactions. In Dongjiadu,

for example, many unique street names reflect the prosperity and everyday life of old Shanghai. These names often derive from the various wharves, guildhalls, temples, workshops, shops, and waterways that once thrived in this area (see Figure 8). By exploring their origins, people can uncover clues about the historical development of Dongjiadu and discover intriguing stories from the past. However, after the demolition and regeneration of this area, while most street names have been retained, it has become difficult to trace the historical context and connect these names to the area's unique identity. This fragmentation of place attachment reflects the broader impacts of urban renewal, where the narratives of individual lives are often sidelined in favor of larger developmental goals. However, efforts to preserve and promote urban heritage can counteract this trend, helping to reconstruct collective memory and provide a more comprehensive understanding of the area's historical significance.



Figure 8. The street name in Dongjiadu (source: https://pic.chinadaily.com.cn/2015-03/24/content_19893666_8.htm, accessed on 25 December 2024).

4. Discussion

The tension between modernity and tradition, as discussed in the context of time rupture, poses significant challenges for urban heritage preservation. Time rupture refers to the disconnection and fragmentation of historical continuity caused by rapid urban changes, such as technological advancements, gentrification, and globalization. In rapidly evolving urban environments, historical layers become fragmented, erasing the lived experiences of past generations and displacing their cultural memories.

4.1. Weaving Time Rupture: Embracing or Erasing the Disconnection?

A central question raised by time rupture is whether it should be woven or acknowledged as an inherent aspect of urban heritage. The digital age presents solutions such as digital documentation, virtual reality (VR), augmented reality (AR), and 3D modeling to preserve and reinterpret heritage sites. These technologies provide opportunities to digitally capture and archive historical sites, enabling public access while allowing cities to continue evolving. Virtual heritage offers a way to “travel through time”, overcoming physical limitations and presenting historical experiences in an accessible form [38–40].

This could represent a way to bypass the fragmentation caused by rapid urban transformation. However, the ability to digitally immortalize heritage also raises significant questions and concerns. While the digitization of heritage may make history more accessible, the question remains: does it replace or complement the experience of physically encountering heritage sites? There is a real risk that, in striving to weave the rupture, we lose the embodied, spatial, and temporal connection to heritage. As virtual heritage becomes increasingly normalized, we may inadvertently move towards a disembodied relationship with the past. This digital preservation, though it offers immediate accessibility, does not replicate the emotional and sensory experience that physical heritage sites offer.

While digital technologies can capture the visual appearance of heritage sites, they cannot recreate the materiality, embodied experience, and emotional resonance of physically being in those spaces. As heritage becomes increasingly virtual, we risk losing the connection between the physical place and the cultural memory it embodies. Time rupture may be smoothed over in the digital realm, but we may risk erasing the authentic, lived experience of heritage, reducing it to a commodified, flattened representation [18].

Furthermore, the digital era, with its emphasis on immediacy and accessibility, risks transforming heritage into a series of disconnected fragments. This could result in a superficial understanding of cultural heritage that prioritizes global consumption over local significance. Additionally, the ephemeral nature of technology itself, e.g., its potential for obsolescence or failure, raises doubts about the longevity and sustainability of virtual heritage. Digital files, platforms, and formats are vulnerable to loss, rendering long-term preservation uncertain.

4.2. Embracing Time Rupture: An Opportunity for Reinterpretation

Rather than attempting to fully “smooth over” or erase time rupture, it might be more valuable to embrace it as part of the ongoing urban transformation. Time rupture offers an opportunity to acknowledge the complexity and multiplicity of urban history. Heritage is not a fixed, unchanging entity but a living process that evolves with the urban environment. Recognizing time rupture allows for a more dynamic and inclusive approach to heritage conservation, which can re-engage with the past while remaining relevant to contemporary needs.

One way to embrace time rupture in a constructive and creative manner is through adaptive reuse, the process of repurposing old buildings for contemporary functions while retaining their historical significance. Another avenue for embracing time rupture is through reinterpretation, viewing the historical fragments left behind by rapid urban change not as remnants of a lost past but as artifacts of an ongoing story. Moreover, time rupture invites artistic reinterpretation. Urban art installations, digital storytelling, or even augmented reality applications can be used to highlight the historical significance of a place while providing interactive experiences that allow people to engage with the past in new ways. These interpretations can help bridge the gap between past and present, fostering a deeper understanding of how the city’s history has shaped its modern identity. Rather than erasing the rupture, these interventions acknowledge the complex layers of time, offering dynamic engagements that invite both locals and visitors to participate in the ongoing construction of the city’s memory.

Embracing time rupture also creates space for community-led reimaginings of urban heritage. By involving local communities in the conservation process, we can ensure that the interpretation of heritage is rooted in the lived experiences of the people who inhabit the city. This participation can range from crowdsourced heritage documentation to community-driven digital storytelling projects or even local art initiatives that reflect the evolving identity of the area.

Ultimately, embracing time rupture calls for redefining heritage as something that is not limited to physical preservation but is an ongoing, shared experience. Heritage sites and memories are not just the past's fossils but the living embodiments of how communities relate to their history and their future. The experience of heritage, in this view, is about connection, not just between people and places but between different times. The continuity of cultural heritage should be seen as an ongoing dialogue where each generation contributes to the interpretation and understanding of their shared past.

4.3. Limitations and Future Research Directions

While the findings of this study contribute valuable insights into time rupture and urban heritage preservation, several limitations must be considered. Dongjiadu, as a case study, provides a detailed analysis but may not be easily generalizable to all urban contexts, particularly in cities with different historical, cultural, or socio-political environments. The focus on temporal aspects of heritage may also overlook other critical factors, such as economic pressures, political influences, and the role of environmental factors in shaping urban preservation strategies. Additionally, the reliance on modern technologies assumes the availability of resources that may not be accessible in underdeveloped or resource-constrained areas. Furthermore, community engagement in preservation processes faces challenges due to power dynamics between various stakeholders, especially in marginalized communities, which could limit the effectiveness of participatory practices. Lastly, the study's short-term perspective on preservation strategies calls for future research on their long-term sustainability and impact. Addressing these limitations through expanded research, more inclusive practices, and broader consideration of social, economic, and technological factors would enhance the framework and its applicability in diverse urban contexts.

Future research could explore the use of theoretical landscape models to better understand time rupture and its effects on heritage conservation. By incorporating landscape-based methodologies, scholars can deepen their understanding of how urban heritage interacts with the spatial and temporal dynamics of cities undergoing rapid transformation. Comparative studies across diverse urban settings, particularly those facing underdevelopment or over-tourism, could help refine and expand the framework presented in this paper.

5. Conclusions

This paper has explored the intricate relationship between modernity and tradition in urban heritage conservation, using Dongjiadu as a case study to illustrate the challenges and opportunities presented by time rupture. Time rupture, a concept emphasizing the fragmentation of historical continuity, provides a lens to understand the tensions between rapid urban transformation and the preservation of cultural heritage. In Dongjiadu, the coexistence of colonial remnants, traditional neighbourhoods, and modern developments highlights the complexities of navigating these temporal and spatial disjunctions. Through the examination of nostalgia, socio-spatial inequalities, and the role of modern technology, this paper underscores the importance of adopting a context-sensitive approach to heritage preservation. Technologies such as digital documentation and virtual reconstructions offer innovative tools for bridging temporal gaps but also raise critical questions about authenticity and the risk of detaching heritage from its physical and emotional contexts.

A key contribution of this research is the argument that sustainable heritage preservation requires a context-sensitive, adaptive approach that integrates modern development with the continuity of cultural memory. The paper emphasizes the need to balance technological innovations, such as digital documentation and virtual reconstructions, with the

authenticity and emotional significance of heritage. While these technologies offer valuable tools for bridging temporal gaps, they also raise critical questions about the potential detachment of heritage from its physical and emotional contexts. Furthermore, this study underscores the importance of inclusive practices that actively engage local communities in the preservation process. By integrating community input and critically embracing technological advancements, the challenges of time rupture can be addressed, ensuring that heritage remains both relevant and meaningful for future generations. Ultimately, this approach not only helps preserve the rich history of areas like Dongjiadu but also contributes to the sustainable development of urban environments, allowing heritage to play a vital role in social cohesion, economic growth, and resilience.

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