From "Form Innovation" to "Contextual Reconstruction": The Transformation of Architectural Aesthetics in Historical Districts and Existing Stock Renewal

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Abstract

China's urbanization has shifted from rapid expansion to a stage of existing stock renewal. At the same time, the focus of urban development is moving away from efficiency toward a more human-oriented approach, and this shift is gradually reshaping architectural aesthetics. In the expansion era, cities often relied on visually striking designs characterized by Form Innovation to build urban identity. This worked for a while. However, it also led to problems such as fragmented historical context, a weak sense of place, and limited responsiveness to everyday social needs, which are becoming more evident in an aging society. Against this background, architectural aesthetics is moving toward Contextual Reconstruction. More attention is being given to contextual continuity, cultural transmission, and the needs of different user groups. Based on literature review, case study, and comparative analysis, this paper develops a context-oriented analytical framework for architectural aesthetics in the era of existing stock renewal, integrating urbanization stage theory with the idea of the livable city. The renewal of the Wuzhen historical district is used as a representative case. The findings suggest that this transformation reflects a return of architectural value to the city, to culture, and ultimately to people. Meanwhile, technologies such as artificial intelligence are starting to support contextual preservation, spatial optimization, and age-friendly design. These insights may be useful for historical district renewal and also contribute to ongoing discussions on urban transformation in the era of existing stock renewal.

Keywords: Urban Renewal; Architectural Aesthetics; Contextual Reconstruction; Relational Aesthetics; Existing Stock Era; AI

1. Introduction

1.1. Why Contextual Reconstruction Becomes Necessary in the Era of Existing Stock Renewal Under Dual Conditions?

Urbanization is widely seen as a key marker of modern social development. Different stages of this process tend to produce very different logics of urban construction, planning priorities, and aesthetic orientations. In ***From Industrialization to Urbanization: A Feasible Path for Economic Growth in the Next 30 Years*** (2019), Xu Yuan examines China's urbanization in its own context rather than simply applying Western frameworks. He outlines a clear transition from an industrialization-led phase to a more urbanization-driven one, and divides this process into three stages: the early stage of industrialization, a period of rapid industrial expansion, and a mature stage characterized by existing stock renewal.

In the earlier stages, the main priorities were industrial growth, expansion in scale, and efficiency. Urban construction largely served economic development and population absorption. As urbanization matures, however, the focus begins to shift. Issues such as quality of life, social welfare, and cultural continuity become more central, and urban development turns inward. In this sense, the city is no longer just a container for growth, but increasingly a place for living. This shift aligns closely with China's current transition and provides a useful local framework for understanding changes in architectural aesthetics. At the same time, ideas from Western urban

theory offer a complementary perspective. Peter Hall, one of the most influential urban planners of the twentieth century, argues in ***Cities of Tomorrow*** (2010) that a "better city" is not defined simply by expansion or economic strength. Instead, it should balance economic vitality with social inclusiveness, cultural continuity, environmental quality, and everyday livability. From this perspective, architecture—as the material foundation of urban space—should not be reduced to visual novelty or formal impact alone. It also needs to carry historical memory, reflect local culture, and respond to the practical needs of residents.

Since the launch of reform and opening-up, China has undergone one of the largest and fastest urbanization processes in human history. The urbanization rate climbed from 17.92% in 1978 to 67.7% in 2024, completing in just over forty years a process that took Western cities nearly a century to achieve. Rapid expansion became the defining feature of this stage. During this period of growth, urban construction was dominated by large-scale demolition and rebuilding, new district development, and the creation of landmarks. In architecture, this gave rise to an aesthetic paradigm centered on single-building form innovation and visual landmark priority. This approach met the short-term needs of industrializing cities, quickly producing recognizable urban icons and accelerating the transformation of cityscapes. Yet it also sowed the seeds of long-term challenges, including disrupted historical context, imbalanced scale, and neglect of everyday social needs. As urbanization surpassed 65%, constraints on land resources, aging existing buildings, fractured urban fabric, and rising demands for livability became increasingly pressing. The focus of urban development has now shifted: existing stock renewal takes precedence, while new expansion plays a secondary role, marking a move toward higher-quality, more sustainable urban growth.

Meantime, China faces two urgent national challenges: deep aging and the disruption of urban context. According to the latest data from the National Bureau of Statistics, by 2024 over 20% of the population is aged 60 or above, marking the official entry into a deeply aging society. In older urban areas, significant gaps exist in age-friendly facilities, public spaces for the elderly are insufficient, and residents often lack a sense of emotional attachment to place—issues that have become core social concerns in urban renewal. Meanwhile, the loss of regional characteristics, homogenized cityscapes, and ruptures in historical memory have eroded the cultural soul of cities, running counter to national strategies emphasizing cultural confidence and the development of distinctive urban identities.

In this context, Xu Yuan's theory of urbanization stages clearly identifies the shift in Chinese urban development from expansion to renewal, from scale to quality, and from efficiency to human-centered design. Complementing this, Peter Hall's vision of the ideal city provides a humanistic framework for the renewal of China's existing urban stock. At the same time, rapid advances in digital technologies—including artificial intelligence, big data, and parametric design—create new possibilities for the digitization, extraction, precise restoration, and modern reinterpretation of urban context, enabling the preservation of cultural heritage to move from experience-driven to rational, data-informed approaches. This, in turn, supports the modernization and localization of architectural aesthetics. Building on Xu Yuan's urbanization stage theory and Hall's livable city concept, and taking into account China's context of existing stock renewal, deep aging, and AI-enabled urban management, this paper explores the transformation of architectural aesthetics from Form Innovation to Contextual Reconstruction, focusing on its logic, core implications, and practical pathways. While situated in the broader context of urban renewal, the study emphasizes historical districts and areas with clear cultural context as its primary focus, to enhance both theoretical precision and case-based analysis. According to the circumstances mentioned above, this paper addresses three core questions:

- What are the internal driving mechanisms behind the transformation of architectural aesthetics in the context of urban renewal?
- What is the theoretical meaning of relational/contextual aesthetics, and how does it add value compared with traditional paradigms?
- How can this aesthetic paradigm be operationalized in actual renewal projects?

2. Literature Review

2.1. Overview of Foreign Research on the Topic

Research on urban renewal and architectural aesthetics started early in Western countries, gradually forming solid theoretical framework and practical experience. Scholars' attention has mainly focused on three areas: contextualism, the spirit of place, and livable cities. At the theoretical level, Christian Norberg-Schulz (1979), in ***Genius Loci: Towards a Phenomenology of Architecture***, introduced the concept of the spirit of place, arguing that architecture and space are more than functional structures—they carry regional culture, historical memory, and the emotional attachment of residents. This laid the philosophical groundwork for context-driven architectural aesthetics. Aldo Rossi's theory of architectural typology suggested that by abstracting regional architectural prototypes, architects could reinterpret historical context in a modern way, avoiding mere replication or breaking continuity, offering a practical path for heritage preservation. Peter Hall (2010), in his work on livable cities, emphasized that architecture should serve the city as a whole, with human needs at the center of planning. In practice, Western countries entered a phase of stock urban renewal as early as the 1960s, tackling historic district preservation and the renovation of old urban areas. Examples include Europe's organic, context-sensitive renewal, community-focused livability improvements in the U.S., and age-friendly urban design in Japan. These cases collectively highlight a few recurring themes: balancing old and new, maintaining historical continuity, and adapting spaces to the needs of residents.

In recent years, foreign scholars have gradually incorporated digital technology into the research of urban context and architectural aesthetics, exploring the application of AI and big data in the restoration of historical buildings, the extraction of cultural context genes, and spatial optimization. They focus on the balance between technological rationality and humanistic emotions to avoid the dissolution of the spirit of the place by digital technology. However, most foreign studies are based on the slow urbanization, stable population structure and multicultural background of Western developed countries, which are significantly different from China's local conditions of rapid urbanization, deep aging and super-large population size. Therefore, the relevant theories and practices are difficult to be directly copied and applied.

2.2. Overview of Domestic Research on the Topic

Domestic related research began in the 1990s and gradually deepened along with the development of urbanization. It can be divided into three stages: in the early stage of the expansion era, the research focused on modern architectural design and the creation of urban landmarks, emphasizing form innovation and visual effects, with insufficient attention paid to the inheritance of the cultural context and the adaptation to people's livelihood; in the later stage of the expansion era, as the problem of uniformity in thousands of cities became prominent, scholars began to pay attention to the protection of historical districts and the creation of regional architecture, exploring the basic design methods for the inheritance of the cultural context, but most of them were limited to individual buildings and historical districts, and did not form a systematic research on aesthetic paradigms; since the era of existing buildings, the research focus has completely shifted to urban renewal, existing building renovation and the construction of livable cities. Some scholars began to explore the transformation trend of architectural aesthetics from form to relationship, from individual buildings to the whole, and at the same time gradually paid attention to the influence of core variables such as aging and digital technology.

Specifically, the current domestic research mainly focuses on three aspects: Firstly, research on the protection and inheritance of historical context in urban renewal, represented by scholars such as Wu Liangyong, Shan Jixiang, and Liu Boying, emphasizing the holistic protection of historical texture and cultural heritage, and proposing concepts such as organic renewal, micro-renewal, and acupuncture-style renewal; Secondly, research on the transformation of architectural aesthetics paradigms, some scholars have proposed concepts such as relational aesthetics, place aesthetics, and symbiotic aesthetics, criticizing the formalism mistakes of the incremental era, and advocating a return to the essence of human habitation and cultural roots; Thirdly, research on the combination of digital technology and urban renewal, exploring the application of AI and parametric

design in building renovation, space optimization, and context restoration. However, the existing research still has obvious deficiencies: Firstly, there is a lack of systematic analysis of the aesthetic paradigm combined with Xu Yuan's urbanization stage theory, with insufficient theoretical support and failure to clarify the intrinsic connection between aesthetic transformation and the iteration of urbanization stages; Secondly, it has not deeply integrated the core national condition of deep aging with the research on context aesthetics, and insufficient exploration of the collaborative path for the creation of age-friendly spaces and the inheritance of context; Thirdly, the cross-research on AI technology and context aesthetics is relatively weak, mostly focusing on the technical application level, and failing to form a complete research framework of theory, national conditions, and technology; Fourthly, there is a lack of systematic aesthetic norms and practical systems for the systematic urban renewal of China's local areas, and the practicality of the research results is insufficient.

In summary, existing research both at home and abroad provides a solid theoretical foundation and practical reference for this study. However, there is still no comprehensive framework for the aesthetics of stock urban renewal that is tailored to China's local context. In particular, there is a lack of integrated studies combining the four core variables of Xu's urbanization theory, Peter Hall's livable city theory, deep aging, and AI technology. This study addresses that gap by grounding itself in China's unique conditions and developing a systematic framework for context-based aesthetic relationships. In doing so, it fills a clear gap in current research and offers targeted support for urban renewal practice.

3. Methodology

3.1. Research Framework

This study follows a complete research approach structured as "theoretical foundation → current status analysis → transformation argument → system construction → practical guidance → future outlook." It begins by reviewing core theories, including Xu's urbanization stage theory, Peter Hall's livable city theory, contextualism, and relational aesthetics, to establish the theoretical groundwork. Next, it analyzes the generation logic, key characteristics, and temporal limitations of aesthetics in the incremental era, arguing for the necessity of aesthetic transformation in light of China's stock urban renewal and aging population. Building on this, the study develops a theoretical framework for context-based relational aesthetics in the stock era, clarifying its core concepts, theoretical foundations, and practical approaches, with consideration of AI-enabled interventions. This framework is then tested through empirical case studies to verify its feasibility. Finally, practical insights are summarized, limitations are discussed, and directions for future research are outlined, completing a full research cycle.

3.2. Research Methods

This study adopts an interdisciplinary research paradigm, integrating theories from architecture, urban planning, aesthetics, sociology, gerontology, and digital technologies to construct a comprehensive analytical framework. Based on this foundation, the following research methods are primarily employed:

Literature review: A systematic review of core works by Xu and Peter Hall, as well as literature on architectural aesthetics, contextualism, urban planning, aging societies, artificial intelligence, and urban-rural development, both domestically and internationally, including monographs and key journal articles. This process clarifies theoretical lineages and the current state of research, providing a solid theoretical basis for the study.

Comparative analysis: A comparison of urbanization stages, city development logics, and architectural aesthetics between China and Western countries, as well as between incremental-era and stock-era architectural aesthetics. Differences in core concepts, evaluation criteria, and practical approaches are analyzed to identify the key characteristics and inherent logic of aesthetic transformation.

Case study: Selection of representative domestic projects for historic district revitalization, examining the practical application of context-based relational aesthetics, summarizing lessons learned and limitations, and

testing the applicability of the theoretical framework.

4. Innovation and Significance of the Study

4.1. Research Innovations

Theoretical Integration: For the first time, it combines Xu Yuan's urbanization stage theory with Peter Hall's theory of livable cities, simultaneously integrating China's existing urban renewal and deep aging situation. It clarifies the internal logic of the transformation of architectural aesthetics and the iteration of urbanization stages, as well as the changes in population structure, thereby laying a solid foundation for local theories.

Research Perspective: Integrate AI technology into the research system of contextual relationship aesthetics, explore the two-way paths of technology enabling the inheritance of cultural contexts and the creation of age-friendly spaces, balance technological rationality and humanistic emotions, and fill the research gap in the intersection of digital technology and contextual aesthetics.

Framework Development: The system is constructed to adapt to the existing updated cultural context of China, and to establish an aesthetic theoretical system that encompasses core connotations, practical guidelines, and diverse evaluation criteria. It breaks through the fragmented limitations of existing research and forms a systematic theoretical and practical framework.

4.2. Significance of the Study

Theoretical Significance: This paper enriches the interdisciplinary research system of urban renewal and architectural aesthetics, improves the theory of context-oriented architectural aesthetics, clarifies the transformation logic and core connotation of architectural aesthetics in the post-construction era, expands the application boundaries of Xu Yuan and Peter Hall's theories in China, and provides theoretical references for subsequent related research.

Practical Significance: In light of China’s dual challenges of deep aging and cultural discontinuity, the study offers actionable aesthetic guidelines for renovating old urban areas, revitalizing historic districts, upgrading aging neighborhoods, and implementing small-scale urban renewal projects. These insights help address issues such as monotonous cityscapes, inadequate adaptation to residents’ needs, and weakened sense of place, promoting high-quality urban renewal that supports cultural heritage and responds proactively to population aging.

5. The Generation Logic, Core Characteristics and Era Limitations of Architectural Aesthetics in the Incremental Era

5.1. Generation Logic of Iconic Aesthetics in the Incremental Era: A Product of Industrialized Urbanization Stages

According to Xu’s urbanization stage theory ***From Industrialization to Urbanization*** (2019), the incremental era in China roughly corresponds to the period of rapid industrial expansion from 1978 to 2015. During this stage, the core goal of cities was to achieve industrial clustering, population growth, and high-speed economic development. Urban construction prioritized efficiency and scale, and architectural aesthetics were entirely shaped to serve these goals, reflecting the distinct characteristics of the era. From an economic perspective, in the wake of reform and opening-up, China was undergoing primitive capital accumulation and rapid economic growth. Urban development relied on iconic buildings to boost city recognition, attract investment, and draw in population, making landmark architecture a key tool for city branding and driving

aesthetics toward visual impact and formal innovation. From a social perspective, rapid urbanization brought large numbers of rural migrants into cities. Housing shortages and insufficient infrastructure became pressing social issues, so construction focused mainly on meeting basic functional needs and expanding scale, while attention to cultural continuity, livability, and age-friendly design was relatively weak. From a technical perspective, rapid advances in modern construction methods and new materials provided the support needed for long-span structures, super-tall buildings, and novel forms, further enabling innovation in architectural form. From an ideological perspective, Western modernist and postmodernist architectural trends entered China, breaking away from traditional constraints. Designers pursued autonomy of form and individual expression, gradually forming an aesthetics that prioritized form above all else.

Xu points out that during the industrialization-dominated stage of urban development, cities generally exhibited the core characteristics of “prioritizing production over life, emphasizing scale over humanistic concerns.” Urban construction primarily served economic growth rather than residents’ needs, a feature that was particularly evident in China’s incremental-era cities. The iconic aesthetics of this period were a natural product of these conditions, fully aligned with the short-term demands of industrialized urbanization. While reasonable in the short term, this aesthetics gradually revealed their inherent limitations as urbanization shifted into a mature, city-driven stock era, highlighting a growing gap with Peter Hall’s (2010) vision of livable, inclusive cities with cultural depth.

5.2. The Core Features of the Iconic Aesthetics in the Incremental Sra: Priority Given to Individual Units and Autonomy in Form

5.2.1. Aesthetic Core: Emphasis on Individual Buildings Over the Urban Whole

The iconic aesthetics of the incremental era take individual buildings as the absolute core, regarding buildings as isolated visual symbols independent of the urban environment, historical context and residents' lives. The aesthetic focus is completely concentrated on the shape, material, scale and visual effect of individual buildings, while ignoring the connection between buildings and the surrounding environment, historical texture and the overall urban space. In the creative process, designers often pursue the uniqueness and distinctiveness of buildings, deliberately breaking the existing block scale and spatial order, making individual buildings stand above the city, forming an unbalanced pattern of "one building landmark, the entire urban area as a backdrop", which completely goes against the development law of the city as an organic whole.

5.2.2. Formal Expression: Pursuit of Visual Impact While Neglecting Contextual Continuity

The core expression of this aesthetic paradigm is visual impact and novel form. Architectural design strives for exaggerated scale, complex forms and unique materials. It blindly follows international architectural trends while neglecting regional cultural characteristics and historical continuity. Whether it is the minimalist rationalism of modernism, the deconstruction rebellion of postmodernism, or the complex forms of the parametric era, all aim at form innovation. The inheritance of regional architectural symbols, historical texture, and cultural genes is almost non-existent, resulting in a large number of newly built buildings being completely disconnected from the city's history, losing their regional characteristics, and ultimately leading to a situation where all cities look the same.

5.2.3 Evaluation Criteria: Visual Impact Takes Priority Over Residents’ Needs

The third major core feature of the iconic aesthetics of the incremental era is that the evaluation criteria are extremely uniform, completely favoring visual effects while neglecting the basic needs of the people. This is the most fundamental difference between this era's architectural aesthetic and that of the previous era. To more intuitively and clearly compare the underlying logic, practical orientation, and core advantages and disadvantages of the architectural aesthetics of the two eras, by combining Xu Yuan's urbanization stage theory and Peter Hall's concept of livable cities, a standardized comparison table is compiled from six key dimensions: core orientation,

construction logic, attitude towards the context, attention to the people's needs, evaluation subject, and core limitations/advantages. The specific content can be found in Table 1.

5.3. The Limits of Iconic Aesthetics in the Era of Rapid Expansion: Manifest Contradictions in a Dual Socio-Spatial Context

In the iconic aesthetic paradigm formed in the era of increments, the most prominent problem is first manifested in the neglect of the urban context. The excessive pursuit of form innovation and landmark effects has led to the gradual convergence of architectural expressions in different cities, while the differences between the north and south, regional characteristics, and historical accumulation have been continuously weakened. A large number of historical buildings and traditional districts have been simply replaced during the renewal process, and high-rise residential buildings and commercial complexes have rapidly filled the urban space. The original cultural texture has been severed, and the city gradually loses its unique historical memory and cultural identity. At the same time, this design logic oriented towards visual impact also shows obvious deviations in the spatial scale. To strengthen the landmark attribute, many projects tend to pursue super-large volume and height, but they ignore the basic relationship between people and space. The result is that public spaces become depressing, the vitality of the streets declines, the original pedestrian system and neighborhood interaction atmosphere are disrupted, and the daily experiences of residents are affected. This situation obviously cannot conform to the urban development concept of people-oriented.

Table 1. Multidimensional Comparison of Iconic Aesthetics (Expansion Era) and Contextual Relational Aesthetics (Urban Regeneration Era)

Comparative Dimension	Iconic Aesthetics (Expansion Era)	Aesthetics of Contextual Relations (Urban Regeneration Era)
Core Orientation	Visual Impact of Individual Buildings, Autonomous Formal Innovation, Pursuit of Landmark Recognition	Heritage Continuity, Relational Symbiosis, All-Age Livability, Grounded in Overall Urban and Residential Needs
Construction Logic	Demolition and Reconstruction, Incremental Expansion, Efficiency-First, Serving Industrial Economic Growth	Micro/Organic Renewal, Activation of Existing Stock, Human-Centered Priority, Supporting In-Depth Development
Contextual Approach	Neglect of Historical Fabric, Rejection of Context, Blind Pursuit of Trendy Forms	Preservation and Regeneration, Coexistence of Old and New, Genetic Continuity, Retaining Urban Historical Memory
Livelihood Focus	Neglect of All-Age Needs, Zero Adaptation for the Elderly, Emphasis on Appearance over Functionality	Focus on All-Age Friendliness, Emphasis on Deep Aging Adaptation, Balancing Aesthetics and Functionality
Evaluation Subject	Primarily Designers, Capital Investors, and Government; Ordinary Residents Lack Voice	Diverse Stakeholders: Government, Designers, Residents, Experts; Emphasis on Resident Satisfaction
Limitation / Strength	Contextual Discontinuity, Scale Imbalance, Neglect of Livelihood, Extremely Weak Long-Term Sustainability	Balancing Cultural Heritage and Livelihood, Adapted to Stock Renewal, Highlighting Long-Term Value

Note: This table compares two aesthetic paradigms, informing analysis of architectural transformation and its practical value.

With the change of population structure, this problem has been further magnified. In the context of deep aging, the adaptability of existing buildings and spaces to the elderly gradually becomes apparent. Many old communities lack basic accessibility facilities, public activity spaces are limited, the walking environment is unfriendly, and these problems were often not fully considered in the design at the beginning. The resulting issues are not only inconvenient in terms of use, but also affect the residents' sense of place and quality of life, making buildings unable to respond to the actual social needs.

From a long-term perspective, this architectural model oriented towards form also faces sustainability issues. Such buildings usually have high construction and maintenance costs, but limited spatial adaptability. Once the urban functional requirements change, they often cannot be flexibly adjusted, and may even turn into inefficient or idle spaces, resulting in resource waste. This development approach relying on large-scale demolition and reconstruction also has a clear conflict with the current main development path of micro-updating and organic updating of existing buildings.

Under the influence of these multiple factors, the transformation of architectural aesthetics has gradually become an inevitable trend. With the change of urban development stages, the focus of construction has shifted from simple economic growth to quality improvement and cultural continuation, and the renewal methods have shifted from expansion to the reuse of existing spaces. At the same time, the dual pressure of population aging and context protection has made buildings not only need to meet functional requirements, but also to undertake the role of cultural inheritance. Residents' expectations for space have also shifted from novelty in the visual aspect to a more comprehensive experience, including comfort, sense of belonging, and cultural identity. In this context, architectural aesthetics has gradually shifted from "form innovation" to "context continuation", gradually becoming an internal transformation adapted to the development stage of the city.

6. Constructing the Aesthetics of Contextual Relations in the Era of Urban Regeneration: Framework and Practice

6.1. The Core Connotation of the Aesthetics of Contextual Relationship: Symbiotic Relationship and People-Oriented

The core transformation of architectural aesthetics in the era of existing buildings is a complete shift from the iconic aesthetic of "formal autonomy and individual supremacy" to the contextual relationship aesthetic of "context priority, symbiotic relationship, and people-orientation". This aesthetic paradigm centers on the organic urban whole, is based on the inheritance of the context, aims for lifelong livability, and emphasizes the harmonious coexistence of architecture with the city, architecture with history, architecture with people, and architecture with nature. It completely discards the formalist mistakes of the era of increment and returns to the core concept advocated by Peter Hall and Xu Yuan, which is "buildings for people". Its core connotation includes four aspects: First, the contextual relevance, where architectural design actively responds to the historical texture of the city, the regional cultural genes, and the existing spatial layout, achieving seamless connection between history and modernity; Second, the symbiotic relationship, breaking the isolation of individual buildings, constructing harmonious relationships between buildings and surrounding environments, neighborhood spaces, and public areas; Third, the suitability for people's livelihood, taking into account the needs of all ages of residents, focusing on adapting to the national situation of deep aging, and improving aging-friendly facilities; Fourth, the dynamic inheritance, based on history and facing the future, achieving sustainable creation of the context rather than static protection.

6.2. The Theoretical Foundations of the Aesthetics of Contextual Relations: Phenomenology, Typology, and Livability Theory

The aesthetics of contextual relationships has a solid interdisciplinary theoretical foundation, integrating three core theories: architectural phenomenology, architectural typology, and urban livability theory, forming a complete theoretical support system. Firstly, place phenomenology, with Norbert Schutz's theory of place spirit as its core, emphasizes the emotional and cultural attributes carried by buildings and spaces. In the process of existing building renewal, it is necessary to retain the core historical symbols and continue the living scenarios, awakening the emotional resonance of residents, especially meeting the emotional needs of the elderly group for urban memories; Secondly, architectural typology, with Rossi's theory as its core, through the refinement of regional architectural prototypes and cultural genes, realizes the modern translation of the context, avoiding

retro replication and disconnection from the context, making the inheritance of the context more contemporary; Thirdly, local urbanization and livability theory, integrating Xu Yuan's urbanization stage theory and Peter Hall's livable city theory, clarifies the historical background and humanistic orientation of the aesthetic transformation, ensuring that the aesthetic paradigm is adapted to the local conditions of China.

6.3. Core Strategies for Contextual Continuity: Integrating Heritage Preservation, Innovation, and Public Well-being

In the practice of context-based continuation, a balance needs to be struck between inheritance, innovation and the needs of the people. For historical buildings, traditional districts and cultural protection units with significant historical and cultural value, the least intervention approach for protection and restoration is usually adopted. During the restoration of damaged parts of history, the original architectural form, materials, texture and cultural symbols are retained as much as possible, avoiding excessive renovation, so as to maintain the existing style and place spirit, and hold onto the cultural roots and historical memory of the city. In contrast, for the renewal of general old districts, old residential areas and industrial remnants, more organic and micro-renewal methods are used. On the basis of retaining the original scale, spatial layout and historical texture of the area, the buildings are appropriately upgraded in terms of function and style, and the regional architectural cultural elements are extracted and translated through modern design language, so that the new part forms a relatively coordinated relationship with the existing environment. This not only continues the tradition but also reflects the characteristics of the times, while avoiding simple retro-style imitation or excessive innovation.

In the context of a continuously deepening aging rate, the renewal practice also needs to further respond to the actual needs of people's livelihood. While preserving the original historical style, cultural symbols and neighborhood layout, the space is optimized through the addition of barrier-free passages, elderly activity spaces, rest facilities and age-friendly transportation and walking systems, etc. This way, both cultural inheritance and the usage needs of the elderly group can be taken into account, and the overall living comfort and place belonging can be improved. At the same time, in the specific practice of integrating aging and tradition, traditional manual design has gradually exposed problems such as incomplete research, subjective cultural translation and insufficiently precise demand matching. With the development of technological conditions, the application of artificial intelligence in image recognition, big data analysis and parametric design provides new support paths for cultural information sorting and space optimization. In the context of emphasizing refinement and targeting in the renewal of existing buildings, these technologies help to build a relatively clear renewal process and to a certain extent improve the rationality and operability of design decisions. The related logic is shown in Figure 1.

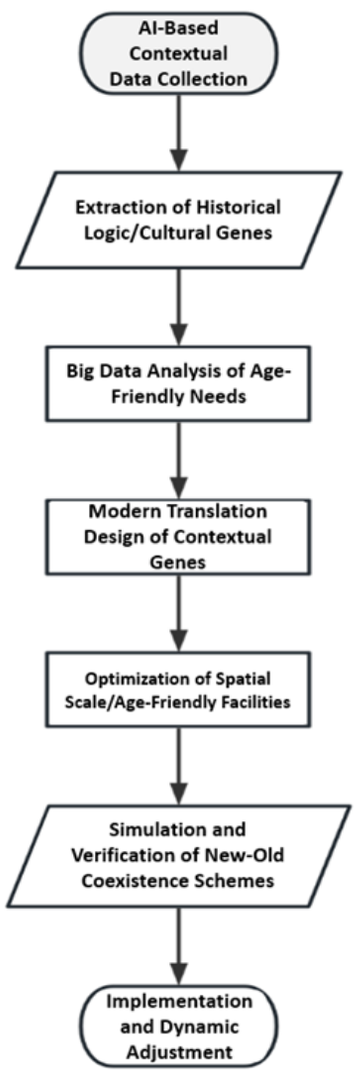

Figure 1. The Full Process of Contextual Regeneration and Age-Friendly Renewal Empowered by AI Technology

6.4. The Empowerment of AI Technology for the Continuation of Cultural Context: From Experience-Driven to Rational-Driven

Based on the above logic of AI's full-process empowerment, it is clear that artificial intelligence is not a disruptive technological tool for cultural inheritance, but a rational auxiliary means for optimizing cultural continuation and filling the gaps in people's livelihood. It provides strong support for the

practical implementation of cultural relationship aesthetics, completely breaking the subjectivity, ambiguity and limitations of traditional manual design, achieving precise, standardized and sustainable cultural inheritance, and at the same time forming a correspondence with the content of the previous flowchart, avoiding content repetition. The core empowerment mainly manifests in three aspects: First, digital collection and gene extraction of cultural heritage, relying on AI image recognition and big data technology, conducting comprehensive digital collection and permanent archiving of the texture, symbols, forms, and cultural elements of historical buildings and traditional districts, automatically extracting the core genes of regional culture, forming a reusable and traceable cultural heritage database, completely avoiding the problems of missed research by humans and one-sided gene extraction, maximizing the preservation of the root of the city's culture; Second, precise translation and design optimization of cultural heritage, through AI parametric design, converting the extracted cultural heritage genes into spatial forms and architectural designs that are compatible with modern functions and meet the needs of the elderly, balancing the traditional cultural heritage background and modern aesthetic demands, avoiding extreme designs of blind retro-style imitation or complete separation of cultural heritage, and truly achieving coexistence of the old and the new; Third, simulation optimization of age-friendly spaces, AI can precisely simulate the daily behavior trajectories, activity demands and action habits of the elderly, and specifically optimize public spaces, barrier-free facilities, and pedestrian system layouts, making cultural heritage inheritance no longer be merely the retention of cultural symbols, but deeply integrated with people's livelihood care and age-friendly friendliness, perfectly implementing the core concept advocated by Xu Yuan and Peter Hall of "building a city for people". At the same time, throughout the entire application process of technology, AI is always positioned as an auxiliary tool, adhering to the bottom line of prioritizing humanity and cultural heritage, avoiding the situation where technology overrides cultural heritage and human feelings, ensuring that urban renewal has both cultural depth and people's warmth.

7. Case Study Analysis

7.1. Empirical Evidence of the Continuation of Cultural Heritage and Age-friendly Renewal in the Historical District of Wuzhen, Zhejiang Province

This study selected the core historical conservation area of Wuzhen in Zhejiang Province as the case study, with a research area of approximately 3.1 square kilometers. There are over 1,200 historical buildings in the area, including brick and wood structures, ancient bridges, and covered walkways, dating back to the Ming and Qing dynasties to the Republic of China. The original residents account for about 42% of the population, with the elderly population over 60 years old accounting for 37.6% of the total original residents, presenting a typical feature of an aging historical district. From the perspective of spatial form and population structure, this area simultaneously bears the dual pressures of historical context protection and adaptive aging renovation, highlighting the complex problem of "coexistence of historical continuity and population aging" in the current context of existing building renewal. Therefore, it has certain type representativeness.

Based on this, the renewal practices of the core areas of East and West Gats in Wuzhen are not a single project operation, but a continuous micro-renewal process carried out around the entire historical district. In the specific implementation, the renewal strategies gradually form a practical path oriented towards historical continuity. Through the retention of the existing spatial layout, the restoration and translation of traditional architectural elements, and the embedded optimization of public spaces and adaptive aging facilities, it has achieved a certain degree of coordination between historical protection, functional renewal, and daily life needs. At the same time, the introduction of digital technology provides auxiliary support for the sorting of historical context information and design decisions, making the renewal process more targeted and operational.

Overall, the significance of this case does not lie in its scale itself, but in the multiple constraints and coping methods it presents in a limited space, providing a relatively complete observation perspective for understanding the transformation from "form orientation" to "context orientation" in architectural aesthetics. In the context of

existing building renewal becoming the dominant path, its experience has certain reference value for the renewal practices of similar historical districts.

7.2. The Implementation Path of Academicization

In practical implementation, the project team introduced technologies such as AI image recognition, 3D laser scanning and big data modeling to systematically collect and archive digital data of the water town texture, street scale and typical architectural elements of the area, build a database of cultural gene, and through parametric analysis, extract regional architectural prototypes. To a certain extent, this reduces the subjectivity of traditional empirical translation, and shifts the inheritance of cultural context from being driven by experience to a more rational analytical path. At the implementation level of updates, the overall principle of organic renewal and minimal intervention is followed. The original street layout and spatial scale are retained, historical buildings are restored using raw materials and original techniques, and necessary new functions are embedded through the "implicit integration" method, maintaining a relatively harmonious relationship between the old and new, and avoiding damage to the overall appearance. On this basis, in line with the aging characteristics of the area, the integration of adaptive aging renovation and cultural context protection is carried out. Without changing the historical texture, the pedestrian system and public spaces are refined and adjusted, and necessary adaptive aging facilities and activity spaces are supplemented. This improves the usage experience to a certain extent, while maintaining the original living scenes and neighborhood relationships, enabling the space renewal to take into account both functional requirements and place identity.

7.3. Academic Contributions and Theoretical Verification

After the project was implemented, the data from a third-party academic research survey showed that the preservation rate of the historical context in the area was relatively high, the satisfaction of the indigenous population significantly increased, the convenience of travel and the sense of belonging of the elderly group were significantly enhanced, the vitality of the neighborhood and the cultural and tourism value achieved long-term growth, and no problems of cultural context erosion due to excessive commercialization occurred. This case empirically verified the feasibility and scientificity of the aesthetic of cultural context relations, proving that the architectural aesthetics in the existing era is not merely a visual aesthetic transformation, but a systematic paradigm innovation that takes into account cultural inheritance, people's livelihood security, and sustainable development. It perfectly responded to the core research question of this paper, providing direct reference for the renewal of historical neighborhoods, and at the same time offering a transferable theoretical framework for other types of existing renewal (such as old residential areas, industrial remnants).

Wuzhen, as a benchmark project for the inheritance and renewal of cultural context in the Jiangnan water town, its core neighborhood micro-renewal fully adhered to the implementation guidelines of the aesthetic of cultural context relations. It abandoned the formalism of large-scale demolition and excessive commercialization, took into account the dynamic inheritance of historical context, local people's livelihood security, and deep aging adaptation, achieving a multi-win situation of cultural protection, improvement of people's livelihood, and neighborhood vitality. It is a typical model of the aesthetic implementation of cultural context renewal in the existing era. During the preparatory stage, the project team relied on AI image recognition and big data technology to conduct full-dimensional digital collection and precise gene extraction of the unique cultural context elements of the water town, such as the water town texture, white-walled and black-tiled architectural symbols, scale of stone-paved streets and alleys, and the layout of river-front canopies, and built an exclusive database of Jiangnan water town cultural context, completely preserving the core historical carrier information such as the water-side residences, stone-paved ancient bridges, river-front platforms, etc., providing precise and implementable design basis for subsequent micro-renewal, and avoiding subjective deviations in manual planning. During the actual implementation stage, it strictly followed the three practical principles of minimal intervention, micro-renewal, and no disturbance to the public, completely preserving the original street layout, the layout of river-front courtyards, the architectural form of Jiangnan residences, and the overall water town style. It repaired and strengthened the damaged brick-and-wood structures, ancient bridges, and canopies using raw materials, original

techniques, and original styles, without changing the original spatial scale, without damaging the overall texture of the water town, and without demolishing and rebuilding. At the same time, considering the high proportion of local elderly residents, their daily travel reliance on walking and riverfront spaces, targeted aging-adaptive measures were implemented: adding anti-slip stone pavement, invisible slope for accessibility, wooden rest handrails and convenient seats along the core streets, renovating aging-friendly riverfront viewing platforms and convenient activity spaces, optimizing the width of the walking line, preserving the original neighborhood interaction scenes, and taking into account the safety of elderly group's travel, leisure needs and emotional belonging. After the project was implemented and operated, it not only completely preserved the core cultural context and the bustling memories of the water town in Jiangnan, guarding the local historical and cultural roots, but also completely solved the livelihood problems of the old neighborhood, such as outdated facilities, lack of aging-adaptive facilities, and low living comfort. At the same time, relying on cultural context protection, it achieved long-term development of cultural tourism integration, avoiding the fragmentation of cultural context and the disappearance of place sense caused by excessive commercialization. The implementation practice of this project perfectly confirmed the practical feasibility of the aesthetic of cultural context relations, providing replicable and promotable practical experience for the renewal of historical cultural districts, cultural context continuation and aging-adaptive renovation in the existing era.

8. Conclusions and Discussions

8.1. Research Conclusions

This article is based on the theories of Xu Yuan's urbanization stage and Peter Hall's theory of livable cities, combined with China's deep aging situation and the background of AI technology empowerment. It systematically explores the transformation logic of architectural aesthetics in urban renewal from "form innovation" to "continuation of the context", and reaches the core conclusion: First, the iconic aesthetics in the incremental era is a product of the phased process of industrialized urbanization, which has short-term rationality but has inherent limitations such as context rupture, lack of people's livelihood, and scale imbalance, and is no longer able to meet the development needs of the existing era; Second, the context relationship aesthetics is the core aesthetic paradigm in the existing era, with the core principles of prioritizing context, symbiotic relationship, and people-oriented, which is in line with the inevitable trend of urbanization transformation, national conditions, and humanistic awakening; Third, the context relationship aesthetics integrates architectural phenomenology, typology, and livability theory. Through three major methods of protection and restoration, organic renewal, and integration of aging-friendly design, AI technology provides rational technical support to achieve a two-way balance between context inheritance and people's livelihood needs; Fourth, the transformation of architectural aesthetics is essentially the embodiment of the return of architectural value to the city, to culture, and to people. It is the core symbol of high-quality urban development.

8.2. Practical Implications

At the conceptual level, we completely abandon the worship of landmarks and the pursuit of novelty in form, and establish a design thinking of "prioritizing the cultural context, coexistence of the old and the new, and being friendly to all ages". We closely adhere to the livability concepts of Xu Yuan and Peter Hall, and deeply integrate the continuation of the cultural context with the needs of the aging population. In the practical design aspect, we flexibly employ three methods: protection and restoration, organic renewal, and integration of aging-friendly features. We rely on typology to achieve modern translation of the cultural context, moderately introduce AI technology to optimize the design, and avoid excessive renovation and separation from the cultural context. At the aesthetic evaluation level, we establish a diversified and long-term evaluation system, incorporating factors such as cultural context compatibility, place belongingness, aging-friendly level, and residents' satisfaction as core standards, to ensure that the aesthetic practice aligns with the needs of people's livelihood and urban development.

8.3. Limitations and Future Directions

This study also has limitations. It has not conducted a detailed study on the differences in contextual translation among cities of different regions, different scales, and different cultural backgrounds. The specific technical paths of AI-enabled contextual aesthetics still need to be further refined. The coverage of cases can be further expanded. In terms of future prospects, based on the vision of "better cities", in line with the national strategies of high-quality development and proactive response to population aging, the aesthetics of contextual relationships will continue to be deepened and improved. AI technology will become an important support for the dynamic inheritance of contextual culture, achieving a deep integration of contextual culture with people's livelihood, tradition and modernity, technology and humanities. In the future, we can further explore the translation mechanisms of contextual culture in different cities, refine the aesthetic creation strategies in the elderly-friendly updates, build a standardized and standardized AI-based inheritance path of contextual culture, and form an aesthetic system for the renewal of existing urban stock that is adapted to the Chinese context. This will provide a Chinese solution for global urban renewal and create livable cities with memories, warmth, culture and vitality.

References

Ansell, C., & Gash, A. (2008). Collaborative governance in theory and practice. Journal of Public Administration Research and Theory, 18(4), 543–571.

Emerson, K., Nabatchi, T., & Balogh, S. (2012). An integrative framework for collaborative governance. Journal of Public Administration Research and Theory, 22(1), 1–29.

Hall, P. (2010). Better cities. Routledge.

Li, X., & Xu, X. (2023). Livable planning strategies for stock-based urban renewal under the background of population aging. Urban Planning Forum, 4(2), 36–43.

Liu, B. (2023). Theories and practices of cultural context preservation in urban regeneration. Architectural Journal, 8(1), 45–52.

Liu, X. (2019). Modern architectural theory (2nd ed.). China Architecture & Building Press.

Norberg-Schulz, C. (1979). Genius loci: Towards a phenomenology of architecture. Academy Editions.

Shan, J. (2020). Urban context and cultural heritage conservation. Tianjin University Press.

Wang, J. (2022). The transformation logic and practical path of architectural aesthetics in the stock era. New Architecture, 6(3), 28–33.

Wu, L. (2014). Introduction to sciences of human settlements (2nd ed.). China Architecture & Building Press.

Xu, Y. (2019). From industrialization to urbanization: The path of economic growth in the next 30 years. CITIC Press.

Zhang, Y. (2024). Design applications of artificial intelligence in urban cultural context inheritance. Architectural Technique, 2(1), 67–72.

Zhou, R. (2024). Rationality and humanistic balance of urban context preservation under digital technology. Urban Architecture, 1(5), 58–63.

Zhu, P. (2021). From formal autonomy to contextual symbiosis: The shift of contemporary architectural aesthetics. Architect, 5(4), 12–19.

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