

Systematic Study and Reflection on Planning Paradigms of German Urban Renewal

Mengyixin Li

The School of Architecture and Urban Planning, Faculty of Landscape Architecture, Beijing University of Civil Engineering and Architecture, Beijing, China

Email address:

limengyixin@bucea.edu.cn

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Abstract: Urban renewal plays a crucial role in promoting sustainable spatial development and structural growth for cities in respect of urban planning and landscape architecture. It is defined as a complex process involving demographic, physical and socio-economic dimensions. The time-tested process of urban renewal in Germany has provided both theoretical and practical experience for the rest of the world. In this context, a systematic and diachronic method is adopted to elaborate on three planning paradigms of German urban renewal. Reflective of the prosperity and reconstruction, structural changes and shrinking process of cities, the critical evolution of urban renewal planning paradigms is subjected to the profound influence from spatial, historic, social, and political factors in different periods. Therefore, according to the needs for urban development, this study focuses on analyzing three essential paradigms of total-demolition reconstruction, careful urban renewal and critical reconstruction, and urban regeneration. On this basis, the evolution of urban renewal is reflected on from such perspectives as institutional guarantee of the federal-state-local framework, the financial support through multiple funding projects, and the critical urban landscape conceptions. In conclusion, there are three aspects of planning paradigms. The first one is critical thinking as a key factor in the scientific analysis of urban spaces and structures. The second one is a full understanding of urban renewal based on the establishment of a complex system. The last one is the positive changes to the evolution of cities and the formation of resilient urban landscapes in the future.

Keywords: Germany, Planning Paradigm, Urban Renewal, Urban Regeneration

1. Introduction

As a crucial topic in the field of urban planning and landscape architecture, German urban renewal has been often referred to in the literature focusing on its essential cultural connotations, planning strategies and the measures of implementation and management in a specific period of time. It is possibly attributed to the lack of systematic research and holistic thinking that the research on planning paradigms of urban renewal has been rarely carried out through longitudinal analysis along the historical trajectory. Allowing for this, a study will be conducted in this paper on the planning paradigm of urban renewal to construct a continuous analytical system, which contributes to the related fields in promoting the in-depth comprehension and extensive exploration of urban renewal.

In chronological order, the urban renewal seen in Germany has undergone paradigm transformation from the

total-demolition reconstruction in the rapidly expanding modernist urban planning, critical renewal and critical reconstruction from a rational and reflective sociological perspective to the comprehensive urban regeneration in multi-dimensional aspects of demography, physical and socio-economy urban development. Thus, a review of urban renewal history can be conducted to conclude the ideal, critical and comprehensive planning paradigms. On this basis, a critical analysis will be conducted to reflect on the dynamic understanding of urban renewal and planning paradigms.

2. Planning Paradigms of Urban Renewal

2.1. The Ideal Paradigm: Total-demolition Reconstruction (1950s–1970s)

Since the 1950s, there have been radical changes occurring

to the process of urban renewal. Due to World War II, most Germany cities suffered devastation [1]. In addition to approximately 5.5 million damaged apartments [2], various public service facilities, such as schools and universities, hospitals, and transportation infrastructure, were mostly turned into rubble. Moreover, in order to solve labor shortage, there were a large number of immigrants and refugees allowed entry into cities under the post-war immigration policy. The urgent task of urban reconstruction was placed on the authorities, urban planners and architects.

2.1.1. The Total-demolition Reconstruction Under the Modernist Urban Planning Thought

A series of pressing problems with urban reconstruction, development and prosperity forced urban decision makers and urban designers into considering the reorganization of urban structures, functions and landscapes. In this historical context, a fast and economical pattern of spatial development was needed for the city. Following the principles of functionalism, the modernist urban planning methods advocated by the 'Athens Charter' in the 1930s can meet the needs of urban expansion and social development at that time.

In this circumstance, the concept of 'Total-demolition Reconstruction' (Kahlschlagsanierung in German) was proposed [3]. It was regarded as a universal paradigm throughout the 1950s and the 1960s. For this reason, the complete demolition of historic centers of cities was promoted. Besides, to allow more development spaces for new urban construction, there were many separate urban functions of residence, work and automobile traffic incorporated into the overall plan. For instance, according to the traffic plan made for Berlin, a modern and vast urban network was reconstructed according to the ideal paradigm, which was preceded by the demolition of most established blocks and traditional residences as shown in Figure 1 [4].

In this stage, the urban reconstruction demonstrates the improvement of physical substance for cities. It was through the modernist planning that the severely damaged urban fabrics were re-established. However, due to the lack of experience in large-scale urban renovation, the entire urban renewal showed blindness and idealization to some degree.



Figure 1. The traffic plan of Luisenstadt in Berlin.

2.1.2. The Related Policies of Urban Reconstruction

In respect of policies, the federal government published

Reconstruction Act (Aufbaugesetz) during this period, including traffic plan, the regulations on construction utilization and the purposes of buildings. The act was aimed to implement urban reconstruction and address the issues arising from urban expansion, land redistribution, as well as community organization and construction.

On this basis, after a decade of extensive discussions among the federal-state-local governments, the *Federal Building Act (Bundesbaugesetz, BBauGB)* was officially published in 1960. As a key milestone in urban planning legislation, it contributed a clear legal framework not only to urban land-use plan and construction plan, but also to the standard procedures for regulating, utilizing and organizing urban spaces.

As indicated by *BBauGB*, the ideas and methods of modernist urban planning remained advocated for the establishment of urban network [5]. It is believed among the authorities and planners that the modern urban spatial structure revolving around automobile transportation could not only ensure functional efficiency but also promote the constant conversion of deserted land around the city into urban development land, thus triggering a wave of urban expansion after the war.

2.2. The Critical Paradigm: Careful Urban Renewal and Critical Reconstruction (1970s–1990s)

At the beginning of the 1970s, urban development funding was introduced and legal standards were developed for financing, which gave rise to the well-established term 'urban renewal' (Städterneuerung) [6]. During the International Building Exhibition Berlin (IBA Berlin) (1979–1987), the technical term and the basic 12 principles of urban renewal was formally proposed by architect Hämer W. Hardt in 1982, which laid a foundation for the subsequent redevelopment of German cities both in theory and practice.

2.2.1. The Concept of 'Urban Renewal'

Clarified in *Federal Building Code (Baugesetzbuch, BauGB)*, the concept of urban renewal is defined as the measures by which an area was essentially improved or restructured to remedy the weaknesses of urban development. As the concept evolves, it tends to be viewed as a complex approach taken to improving the social, economic and ecological state of a neighborhood in a broad sense [5].

When compared with the widely accepted concept of urban renewal, however, the term 'regeneration' that was rarely used in German urban studies was not proposed until the 1970s and 1980s. Until the dawn of the 21st century, with cities shrinking, the regeneration is conceived in a positive sense as the comprehensive planning paradigm, implying the recreation and improvement of the complex system of cities from the perspective of urban development [7].

2.2.2. The Emergence of the Critical Paradigm

Through critical thinking, the emergence of the second paradigm focusing on a cautious urban transformation is influenced not only by the new socio-economic situation but also by the disadvantages of the total-demolition paradigm on

urban housing and spatial structure, which is coupled with the tendency of 'Anti-modernism' thought in the academic circle.

The intensification of economic crisis made an increasing number of urban residents feeling uneasy and insecure about their living conditions. Prompted into questioning the radical modernist paradigm after World War II, people called for resistance and criticism of the demolition of cities as shown in Figure 2 [8].



Figure 2. Residents in Kreuzberg oppose the total-demolition reconstruction.

In the meantime, urban planners and architects became increasingly aware of the necessity to resolve the urban disintegration caused by functional separation through the rebuilding of various spatial connections. It was believed by the professionals that the coherence and characteristics of cities should be reflected by sticking to the original urban fabric and spatial growth pattern over time in the process of urban redevelopment. Particularly, the urban relics related to traditional architecture are not only the prerequisite for sustainable economic development, but also what reflects the cohesion of the entire society.

Under this circumstance, a new trend of urban planning has emerged in the field of urban design (Städtebau), which combines 'careful urban renewal' (behutsame Stadterneuerung) and 'critical reconstruction of urban texture' (kritische Rekonstruktion der Stadttextur) [9]. Essentially, the urban renewal is aimed to observe the historical development of cities and the current status quo in a critical and rational way as shown in Figure 3, rather than to restore its original appearance [10]. In addition, it is necessary to comprehend the expectations of urban residents, to a large extent.



Figure 3. Through the critical reconstruction, various new construction plans (marked in red) were used to restore the plan of the historic center of Berlin before 1933.

Furthermore, the city is understood and valued in this critical paradigm as a physical and social arrangement constructed over time. On the one hand, the theoretical conception of urban landscape and social organization of space as proposed by Henri Lefebvre in *The Urban Revolution* (1970) laid a solid foundation for the further development of urban space from a sociological perspective. On the other hand, with sociological and philosophical discussion methods as guidance, this paradigm was subjected to the significant influence from the 'critical rationalism' put forward by Karl Popper and the critical theory of the Frankfurt School. With a step-by-step and cautious approach taken, the direction of the critical reconstruction of German cities has been made increasingly apparent. In this paradigm, the city will continue its development with such characteristics as openness, mixing, difference, subjectivity, growth, and readability.

2.2.3. The Application and Development of the Critical Paradigm

Based on the adaptation to those changes in social structure, the critical paradigm was first applied to improve the current state of urban housing and neighborhoods in Western Germany. The overall principle is that the renewal is promoted on the basis of preserving the established buildings, with the living conditions of lighting and ventilation improved by appropriately demolishing auxiliary temporary buildings, such as shed. Meanwhile, with such methods as restoration, supplementation and replacement adopted, and through the cyclic process of continuous inspection, recording, transformation and upgrading, the urban space and functions have been renovated and renewed, which depends on the complex urban texture, socio-economic contradictions, as well as the difference of cultural and ecological backgrounds in the specific transformed areas [11].

In fact, as a representative project of careful urban renewal and critical reconstruction, the IBA Berlin clearly stated the 'Inner City as a Living Space' under the plan of 'Save Our City' proposed by the German Parliament, so as to facilitate the transformation of old city communities and the improvement to the quality of urban life [12]. Among them, there were two completely different experimental methods mainly adopted: the New (or rebuilt) Building Exhibition (IBA-Neubau) and the Old (or repaired) Building Exhibition (IBA-Altbau). The latter marks an improved progress made in the planning of removal and new construction for the historic downtown area in the city center. It demonstrates that a gentle way is applicable to organize the owners and tenants of houses together under the coordination of the public sectors [13]. For example, Kreuzberg, known as the core area of the old Building Exhibition, remains not only a cultural landmark of Berlin but also a representative area of reconstruction for the old city.

Essentially, for this paradigm, the public participation with residents at the core plays a fundamental part in discussion and implementation, through which both living space and infrastructure in the city have been significantly improved. On the one hand, those public service facilities performing such

functions as leisure, entertainment, employment and education have been integrated. On the other hand, the shift in planning paradigm requires that the focus of planning is turned from the previous top-down government-led approach to revolving around the residents and local characteristics. In the planning process, an in-depth research is carried out on current buildings and stock land to meet the social inclusive connotation of urban renewal. The authorities, planners, and residents could collaborate on renovation goals and measures. Besides, with an agreement reached, they will incorporate more proactive planning decisions into the statutory planning procedures as shown in Figure 4 [14]. Also, an independent participation strategy has been adopted in accordance with local conditions for residents to improve their own living and working environment progressively.



Figure 4. Tenants, businessmen, planners and staff of the 103 community in Kreuzberg conducted on-site exchanges on urban renewal projects.

In conclusion, from the perspective of critical rationalism, the careful urban renewal and critical reconstruction serve as a crucial stage in the development of German cities. It continues to have a profound influence in such fields as architecture, urban planning and landscape architecture.

2.3. The Comprehensive Paradigm: Urban Regeneration (1990s–Present)

With the reunification of German, and the transformation of industrial structure and economy, the urban development and spatial structure have experienced radical changes. Due to deindustrialization, the term ‘regeneration’ emerges in the context of shrinking cities [6].

2.3.1. The Concept of ‘Urban Regeneration’

In the view of some German researchers, it embodies the hope of renewed growth from the perspective of economic

activities [15]. In addition, from the perspective of urban sociology, the regeneration is further conceived to steer away from the previous uniform growth model of cities [16]. With the development of this paradigm, the urban regeneration can be regarded as a process of achieving a comprehensive vision and sustainable development [17], which necessitates the integration of demography, socio-economy and physical urban development from multiple perspectives.

At present, the implication of urban regeneration is widely recognized in both academic and practical fields. Particularly, the urban research since the end of the 20th century prompts people into paying more attention to the idea of sustainable development from the angle of urban ecology, with cultural and historical dimensions viewed as the influencing factors in urban regeneration. The paradigm is effective in improving the urban physical environment, promoting economic growth and preserving cultural heritage [18]. In this circumstance, there are many industries not involved previously connected through increased cross-disciplinary research methods, which is purposed to break through industry barriers and encourage all stakeholders to enhance collaboration and cooperation [14].

2.3.2. The Improvement of the Comprehensive Paradigm

Aimed to mobilize the interventionist collective action of the public, private sectors and communities at the grassroots level, urban regeneration relies on consultation, institution as well as specific policies and actions to solve the widespread problems in declining areas, including economic recession, the degeneration of material space, social disorder, the lack of education and training as well as the shortage of urban housing [19].

Aligned with the core strategy of integrated urban development, urban regeneration measures not only reflect the comprehensiveness of planning, but also play a crucial role in improving or reshaping the space of specific urban areas for addressing the defects in the overall process of urban planning and design. Meanwhile, in the face of complex issues of climate changes and shrinking cities in the future, urban regeneration will be practiced mainly from the following perspectives. Firstly, an obvious image is created for the city center. Secondly, the original settlements are rejuvenated for workers in the inner city. Thirdly, a large area of derelict land is reused. Lastly, the regional shape and structure of metropolis are improved [20].

Table 1. Systematic analysis of the three Urban renewal paradigms.

Urban Renewal Paradigm	Time	Content	Context	Characteristic
The Ideal Paradigm	1950s–1970s	Total-demolition reconstruction	Reconstruction and prosperity of cities after World War II	Federal government-led, top-down planning and governance
The Critical Paradigm	1970s–1990s	Careful urban renewal and critical reconstruction	Economic crisis and social structural change	Multi-participation (federal-state-local governments, communities, residents) and both top-down and bottom-up planning and governance
The Comprehensive Paradigm	1990s–present	Urban regeneration	Shrinking cities and the integrated, sustainable urban development	Emphasizing multi-dimensions of society, economy, ecology, history and culture in the urban renewal

As summarized in Table 1, the shift of urban renewal paradigm in Germany is reflective of the change in goals of urban reconstruction from resolving a single problem to building a comprehensive target system. The characteristics of planning and operation have been transformed from large-scale, total demolition and construction in an ideal manner into the combination of multi-scale, critical reconstruction according to the local, specific conditions. The renewal mechanism has evolved from the top-down government supply-led development to the two-way docking of supply and demand and multiple co-governance. As for the value orientation, it has also evolved from the improvement of material space to the protection and promotion of the public interests of cities and communities.

3. Reflection on the Evolution of Urban Renewal

3.1. Institutional Guarantee: The Federal-state-local Framework of Urban Renewal

As argued by *BauGB*, the urban renewal system serves as a framework of laws and regulations, programs, operation, and management [21]. Above all, there is a close association between the development of paradigms and institutional guarantee which exerts a significant influence on the practice of urban renewal. Effectively, the German administrative system is composed of federal, state and local governments on three levels. In the legislative framework of the European Union, the management of urban renewal and development has been carried out in a decentralized manner, with the principles of autonomy of regions, cities and communities established in accordance with German Constitution.

With the overall goals and funding framework formulated at the macro level, the federal government has planning-related decision-making powers and functions allocated to each state. Local authorities are allowed financial autonomy to perform a wide range of specific formulation tasks of urban planning, including urban land-use plan, as well as the management of local affairs and comprehensive urban renewal projects. In this federal-state-local framework, the structure of main laws combined with supportive regulations is adopted, which can better convey the will of state government to carry out urban renewal based on the judgment of social contradictions.

3.2. Financial Support: Multiple Funding Projects for Urban Renewal

Since as early as 1971, the federal government has based the provision of local authorities with financial assistance for communities and urban renewal on urban development needs. As mentioned above, Germany began to experience essential critical reconstruction and careful urban renewal during this period, with diverse urban funding projects required for the reintegration of various urban spatial resources, elements and structures.

Each year, the fiscal agreement reached between the federal

and state governments sets a framework for budget support. With the three-tier administrative system as support, Germany has been undertaking the 'Urban Renewal Funding Project' over the past 50 years, which resulted in a series of practical projects, such as urban design and historic preservation, the social city-investment within the community, as well as urban reconstruction. In terms of the principle of 'one-third funding', the financial support offered for related projects will be shared equally by the federal, state and local authorities, which makes urban renewal an essential driver of local economy. To improve the participation of local residents in the overall process of urban renewal, the federal government has also set up an integrated emergency fund for community-level renewal projects to address the lack of local government planning and investment capabilities. Therefore, the community is regarded as the most basic level of implementation, thus providing the most direct measures of management and allowing the public to experience the real impact of the project.

3.3. Critical Conceptions of Cities: Urban Landscapes in Changes

Urban renewal enabled most German cities to achieve both long-term self-growth and redevelopment. With the transformation of different planning paradigms in specific historic, social and political context, the conceptions of cities vary accordingly, which reflects the critical thinking in the field of urban planning and landscape architecture.

The fact of critical paradigm replacing the total-demolition one indicates that urban landscape relies on spatial qualities through specific formal elements, rather than concentrating only on functions under the modernist planning thought. The elements, building blocks, and typologies are deployed for the characteristic urban fabric, instead of homogeneous urban texture.

Since the 1970s, the change occurring to urban landscapes are closely associated with the conceptions of cities through the step-by-step urban renewal. The term 'landscape' is based on the assumption of new delineations at the urban level that not only broaden its connotation but also make it play a key role in urban renewal.

Nowadays, urban landscape denotes the spatial diversity that has developed over centuries, and the context of the city itself which stems from its distinctive urban background of morphology, history and society. In conclusion, the critical change experienced by urban landscapes is what represents the historic and structural connections of cities in the past, present and future, with such characteristics as high qualities of density, mixture and diversity.

4. Conclusion

In this study, there are three aspects of planning paradigms that can be summarized: critical thinking, the comprehensive understanding of urban renewal, and the positive changes to cities. They are closely associated with the top-down and bottom-up approaches to urban renewal.

From the perspective of critical thinking, it is necessary to take a critical approach to urban planning and construction. Critical thinking has played a vital role in the whole process of urban renewal, which demonstrates that the scientific analysis of urban spaces and structures is closely associated with the ongoing practice of questioning, criticism, and negation. Moreover, it prompts professionals to pursue constantly improved understanding of urban landscapes in changes and to develop the planning paradigms and strategies fit for urban renewal on a continued basis.

Through critical thinking, it is found out that the complex system of urban renewal can be constructed progressively from such perspectives as principles, aims, programs, the procedures of implementation and management, land and planning applicable conditions, and the source of funds. It plays an essential role not only in the development of a scientific, reasonable and localized legal system for urban renewal, but also in the establishment of a parallel management and funding system between the state government and the grassroots. On this basis, the relevant elements of urban renewal can be adjusted and improved accordingly.

With regard to the changes caused by urban renewal, public interests have been reinforced by the evolution of planning paradigms. In the meantime, urban competitiveness and the quality of human life have been improved significantly through constant adjustment and optimization of urban spaces and structures. With social justice ensured, the supply of social housing is increased, public service facilities are diversified, while living environment and the quality of urban life are improved through social cohesion-oriented urban renewal. These improvements will play a crucial role in promoting the evolution of cities and the formation of resilient urban landscapes in the future.

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