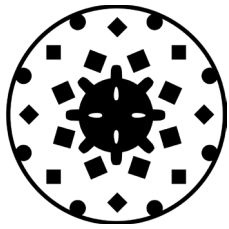
International Planning History Society Proceedings
Vol. 19 No 1

CITY ◆ SPACE ◆ TRANSFORMATION ◆

19th IPHS Conference
5-6 July 2022, Delft.

TU Delft

International Planning History Society Proceedings Vol. 19 No 1



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ISSN 2468-6948 (print)
ISSN 2468-6956 (online)
ISBN 978-94-6366-588-9

19th IPHS Conference, Delft 2022
CITY SPACE TRANSFORMATION International Planning History Society Proceedings, Vol. 19, No. 1.

The International Planning History Society (IPHS) is dedicated to the enhancement of interdisciplinary studies in urban and regional planning history worldwide. The theme of urban transformation is critical now due to the new information and technological revolution, the contradistinction of the neoliberal and centre-planned economy, local identity and globalisation and new roles and uses of urban heritage.

Urban history has witnessed continuous changes, which included transformations of urban plans and objects, changing images or identities of certain spaces or whole cities.

This proceedings volume follows the organisation of the conference. Each presentation comprises an abstract and a peer-reviewed full paper, traceable online with a DOI number.

TU Delft

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5 JULY: SESSION 1.1

PRESERVING THE CITY.

Chair: Christine Garnaut

Historic Landscape Conservation at the UNC in the early 21st century (2001-2010)

Yuan Sun, Mingyue Wang

Beijing Jiaotong University

Abstract

Based on the two successive plans of the University of North Carolina (UNC) at Chapel Hill from 2001 to 2010, we review the conservation and planning philosophy of the five landmark landscapes in the master plan, and the historical context, content and aesthetic culture of the plans, with an emphasis on the objectives, principles, methods and implementation of the historic landscape plan. Since its foundation in 1795, the University of North Carolina has gone through five different phases of landscape planning and management, directed by a professor of natural philosophy, a historian, a botanist, a landscape architect and an architect. The spatial form of its campus plan reflects the great changes in the economic development of the United States over 200 years, reflecting the process of American campus construction during that period. It is argued that the guiding principles developed by the University of North Carolina at Chapel Hill for the preservation of historic landscapes reflect the important role that human intervention and the power of restraint play in the preservation of landscape heritage.

Keywords

Sustainable landscape design, University of North Carolina, Chapel hill, Historical landscape, Campus planning, Plant protection

How to cite

Sun, Yuan; Wang, Mingyue; "Historic Landscape Conservation at the UNC in the early 21st century (2001-2010)". In Carola Hein (ed.), *International Planning History Society Proceedings*, 19th IPHS Conference, City-Space-Transformation, TU Delft, 5 - 6 July, 2022, TU Delft Open, 2022.

DOI: 10.7480/iphs.2022.1.6445

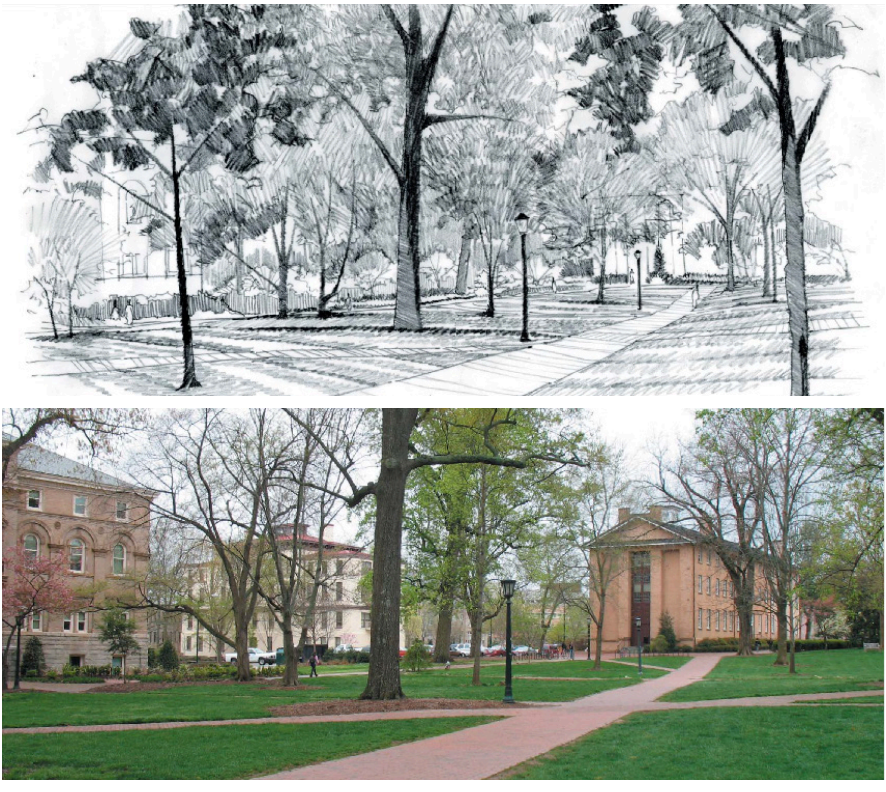

Fig. 1. Sketch of the McCorkle place & McCorkle Place existing condition, 2008

INTRODUCTION

Historic campuses have carried the sweat of generations of teachers and students, and every building and landscape on the campus is a cultural precipitation with two levels of significance: physical space and spiritual connotation. At present, the conservation of historic campuses in China is beginning to take shape, but due to space, time and financial constraints, there is still a tendency to focus on buildings and a lack of connection to the campus landscape and the overall campus environment. The campus preservation efforts of the University of North Carolina, the first state university in the United States founded in 1795, began in the early 21st century by creating a unique planning philosophy that looked for the key elements of a viable past around which the university was founded and then looked for the forward-looking visionary needs and desires to successfully embrace the future. Through archival research, interviews with visiting scholars, and interactive displays, we explain the important role that restrained dignity plays in campus landscape preservation and explore new ideas for historic campus preservation.

I. STUDY ON HISTORIC CAMPUS LANDSCAPE PLANNING

At present, the conservation practices and related research on historic campuses at home and abroad are mostly focused on historic buildings, sorting out conservation values, analyzing restoration techniques and exploring strategies for the reuse of historic buildings, laying a solid foundation for the deepening and expansion of historic campus conservation[1]. Another example is Yishi Liu who, through interviews with old men, sorts out the history of campus planning and construction at Tsinghua University from the oral accounts of historical parties. He analyzed the close connection between academic development and campus construction. The trend of campus planning in the United States is to increase the density of the core area of the campus, enhance the safety and walking experience of teachers and students, enhance the connectivity of academic buildings on campus, and strengthen the transparency and functional mixture of buildings.[2] This will help to respond to the way in which learners acquire knowledge, enhance interdisciplinary communication between disciplines and improve the efficiency of knowledge exchange and creation. Make campus planning serve personnel training.

In reviewing and translating UNC campus planning materials, it was found that the same campus plan and construction was done at the beginning of UNC's existence, and the needs of academic development directly influenced the construction of the campus. The need for more students and faculty, the need for new laboratories, and the need for a new library were all factors that directly influenced the construction of the campus. The excellence of the UNC campus, however, is that no matter how many new houses are built, from the colonial period, through the classical period to the modernist period, the campus has always been nestled in the forest, and this sublime setting has not been greatly damaged. After the campus has taken on a certain size and grown steadily, botanists and architects have taken over to guide the planning of the campus, so that the plants and buildings blend together to form a unified landscape. The details of the master plan created and implemented by the University of North Carolina are highly informative and provide lessons for other universities concerned with long-term sustainability planning.

II. THE HISTORY OF UNC'S LANDSCAPE CONSERVATION PRINCIPLES AND PLAN DEVELOPMENT

UNC began a brand-new planning process in 2001 and the decade to 2011 has been called the dynamic decade, a decade of development that has seen an interesting mix of planning, politics and design transform the old campus into a beautiful new sustainable environment for the 21st century.

2.1 THE JOURNEY OF DEVELOPING A MASTERPLAN FRAMEWORK: FROM OBSERVATION TO POLICY FORMULATION

The development of the UNC master plan honors a uniquely American invention that views the campus as the ideal, self-contained village that provides a social and cultural setting while representing a viable exploration of the past and embrace of the future.

The first part is to observe the natural systems. Topography, vegetation and water are decisive factors that influence planning. The use and demand for space are the underlying factors that shape the campus. The personality and soul of the university in the minds of its users is represented by the campus and its patterns of activity. The beautiful sunlight filtering through the trees of McCorkle and Polk, the friendly conversations sitting on the stone walls after class, the stately academic buildings decorated in red brick and white form an unforgettable memory of one's time on the UNC campus. To capture this essence in drawings and figures, the planners analyzed the historic buildings and their placement, the old neighborhoods adjacent to it, the natural systems at the base of the it, and the built systems and infrastructure that serve the campus, including roads, pavements, traffic, parking and utilities. The existing systems were analyzed to better input into the future design.

The second part is the concept development stage, where we can see that these sketches are eventually implemented into the real campus, the concept development is a key step in making the campus plan come to life.

The third part is constituency research. It is to establish a consensus on the main elements and details. This is just like our country's analysis and treatment of the principal contradiction, because the principal contradiction plays a dominant role and plays a decisive role in the development of things. The planning process captures a comprehensive group of stakeholders: teachers, staff, students, neighbors and local officials. Withdrawing from the overall campus concept plan, the Regional study phase tested planning options for hundreds of discrete areas through intensive stakeholder discussion and comment. Individuals working and living in each constituency walked the campus and participated in two days of workshops led by the planning team. Participants meet in a campus design studio that contains sketches and models. A unique visualization method uses different design concepts to map out shear planes of different campus areas that can be pasted onto the entire campus plan for learning. These so-called "paper dolls" can be quickly revised, providing a simple and flexible way for stakeholders to see and evaluate their ideas in a larger context. Planners use this technique to help participants visualize alternative layouts for new buildings.

The fourth part is the final plan and design guide. The master plan is the long-term vision for the eventual development of the campus. It does not contain a specific date of completion. Instead, it will be implemented progressively through a ten-year development plan and in subsequent phases over the next few years. It highlights how the proposed housing fits into the existing campus structure.

2.2 PRINCIPLES OF HISTORICAL LANDSCAPE PROTECTION:

The five guiding principles that follow are the collective result of UNC and its consulting team. While the scope of work for the project primarily emphasized five distinct and historically significant campus areas, these principles should be used to guide and evaluate future work on campus-wide planning.

2. **New Foundation:** Incorporate cultural, scenic and natural values into the university's decision-making process.
3. **Pursuing dignity**: Consider the overall impact to safeguard and manage the cultural, scenic and natural values of the campus landscape.
4. **Recognition of uniqueness**: Balancing the site-specific design requirements of historic landscape characteristics while understanding this space within the larger campus landscape.
5. **Integration of civic intentions:** Preserve and respect the civic pursuits of patrons and ensure careful integration with the larger cultural landscape.
6. **Respect and worship heritage**: Preserving and revealing features and relationships of historical significance while adapting to change.

III. BASED ON THE INFORMATION COMPILATION AND THE CONSTRUCTION PROCESS OF THE FIVE LANDMARKS

Of the many landmark spaces that exist on the University of North Carolina campus, five representative sites form the historic core of the campus. These spaces are McCorkle Place, Polk Place, Forest Theatre, Kenan Stadium Woods, Morehead-Patterson Bell Tower and Formal Garden, which embody the unique character of the campus and are the detailed focus areas of this study. Looking at the landscape through a series of cultural, natural and scenic 'lenses', the strategy aims to preserve, rediscover and reaffirm the historical and botanical significance of this landmark campus.

1. MCCORKLE PLACE

McCorkle Place is the gateway to the University and demonstrates a strong sense of identity as it marks the historical beginnings of the campus. Survey existing trees in the area, their condition, canopy and soils, and speculate on nutritional growth patterns. Design a matrix for plant selection and planting the next generation of trees; develop a prototype layout; reconfigure pathways and planting areas; end material requirements for site furnishings.

2. POLK PLACE

The planner develops a strategy to maintain and enhance plant characteristics by taking an inventory of existing trees, their condition, canopy and soil in order to speculate on plant growth patterns. A plant selection matrix was made to plant the next generation of trees using tree interplanting strategies; Strengthen base plant planting and develop a prototype layout;

Redesign the quadrangle courtyard; Develop a method to locate and select significant site furnishings and materials: addressing site specific furniture and material that reflect the origins and development of Polk Place. Relocate site furnishings (e.g. bicycle racks) closer to the building envelope. Features such as light fixtures and flagpoles were rearranged to open up the main long-term views and the formal axial relationship of Polk Place was strengthened.

3. MOREHEAD-PATTERSON BELL TOWER

The distinctive Morehead-Paterson clock Tower was the campus's signature building in the 1940s. The semi-circular site is a formal landscape setting, slightly lonely behind a veil of overgrown boxwood hedges. Planners enlarged transitional woodlands and enhanced vegetation features; Part of the boxwood hedge was removed to improve visibility of the bell tower and reconnect it with the campus landscape; Pavements have been widened and sloped down to make it easier for people to cross; Install a curved limestone bench that can be engraved by the graduating class or patron as a memorial.

4. KENAN STADIUM WOODS

Kenan Stadium and the surrounding Kenan Forest are at the center of campus life, both physically and socially. In the face of forest decline, a reforestation program was established, with patches to keep the forest going; Rest areas and gathering Spaces are introduced on race and non-race days to help alleviate soil compaction on the roots. Use Chatham stone walls and understory plant materials to guide visitors through the space during play days and daily activities.

5. FOREST THEATRE

Set amid rolling terrain, the Forest Theatre is almost hidden among a mature collection of beech, maple and oak trees. Rehabilitate the existing theater and associated exterior buildings and apply for the National Register of Historic Places; Develop a plant selection matrix. Remove invasive species and plant understory plants along slope edges. Replacing empty tree pits with new trees and shading views from the parking lot with evergreens and native vines; Strengthen the forest path from the square to the woods to respect the existing lines of desire. Create a mid-block intersection at the formal entrance. Explore opportunities to close streets for special events and performances.

IV. THE CULTURAL LANDSCAPE OF THE UNC CAMPUS FROM DIFFERENT PERSPECTIVES

1. THE ARTISTIC DESIGN PERSPECTIVE

The most artistic design of the University of North Carolina's campus plan is not as ornate as that of ancient Rome, but gives a sense of overall unity. Its artistry is reflected in the visual openness, the accessibility of the site, the appropriateness of the materials used for the facilities and the continuity between the various landscape buildings.

2. THE ORGANISATIONAL MANAGEMENT PERSPECTIVE

One of the highlights of UNC's 2001 Campus Master Plan in terms of organizational management is peer review. While there is review of both municipal and special park planning documents in China, they are all bottom-up, with the final leadership group passing them to begin implementation, and then top-down to begin tracking them down when something goes wrong. In contrast, UNC's Chancellor President created a new design review committee of senior architects and planners from outside the university and gave them broad authority to work directly with project architects to ensure consistency of design and compatibility with the historical context of the campus. In essence, it is a peer review process in which qualified professionals provide objective commentary to enhance the quality of each design project. While the University's architecture faculty is constrained by the client status of external architects, the President's Building and Grounds Committee members provide a largely secular perspective, and the Design Review Committee has the time and ability to provide specific, broad professional design advice. They can ask pointed 'what if' and 'why not' questions. The effectiveness of their work is evident in outstanding projects across campus such as the Science Complex, the Rams Head Centre and the new student housing community on the South East Campus. This ensured that all plans were thoroughly researched and revised within the University's decision-making system before coming to town for formal hearings with community residents and elected officials.

3. THE PERSPECTIVE OF LANDSCAPE PLANNING

Quote by Principal Robert House:- "My first impression of Chapel Hill was of trees. My last impression was of trees." The genius of UNC's master plan is that it recognizes that the essence of the Carolina campus is not in the grandeur of the buildings, but in its landscape - the connective tissue between the buildings.

Landscapes should be self-sustaining and support biological and water conservation and restoration, including species diversity and habitat protection, soil stability, fertility and aeration. The main features of UNC's campus landscape -- mature individual trees in a park-like environment, and scattered remnants -- continue from the 18th century into the 21st. The tall trees are so commanding that the landscape is an equal partner with the campus buildings, working together to create unC's iconic look. The trees unify the buildings of different architectural styles, creating an atmosphere of tranquility, closeness to nature and history, and providing outdoor Spaces for learning and recreation. Policy makers draw up guidelines to identify heritage trees and groves, significant trees and landscapes, and landmark Spaces to guide the siting of new buildings. Ensure proper design of new and refurbished landscaping prior to design approval, protecting significant existing trees and shrubs during construction.

4. A SUSTAINABILITY PERSPECTIVE

The University of North Carolina's dynamic decade is viewed through the lens of campus sustainability. While UNC's visionary 2001 Master Plan does not specifically address the concept of sustainability, it embodies basic sustainability principles. By viewing sustainability as a broader issue than simply saving energy and reducing pollution, the University of North Carolina's resolution of the deeper issues of campus planning, politics and design has produced

a uniquely sustainable solution. At the same time, a parallel sustainability effort is underway through administrative channels.

The implementation of the development plan was seen as an opportunity to instil Carolina values, which include an emphasis on sustainability, protecting environmental resources, maintaining architectural consistency and respecting historical integrity. Within the development plan, the parking policy, tree replacement policy, environmental policy and open space corridor all clearly reflect these values. To further enhance these values in the design process, historic landscape preservation and historic building preservation go hand in hand. Both are important elements of the planning initiatives that have maintained the historic appearance of the campus during a dynamic decade of development. Without them, the new projects at the University of North Carolina would not have been successfully integrated into the fabric of the campus and the spirit of the times. The long-term value of preservation for a university campus is reflected in the concept of 'adaptive reuse'. "The exterior appearance of historic buildings is preserved, while their interior functions are adapted over time to meet the changing needs and educational mission of the institution." The essential features of the historic landscape are retained, while their functions are adapted to contemporary patterns of use. This is in line with the definition of campus sustainability: creating continuity between the past and the present, while maintaining the flexibility required to meet future needs.

V. LESSONS IN SUSTAINABLE CAMPUS PRESERVATION

The University of North Carolina has learned important lessons about sustainable campus development during this dynamic decade of planning, reviewing and building a large campus, and they have learned to define sustainable campus development as a balance between historic preservation, current development needs and potential future needs. They have learned to use the university's mission statement as a touchstone for assessing development proposals. They have learned to collaborate in consensus building to address issues arising from the unprecedented scale and impact this entails. They have also learned to determine the affordability of the campus in terms of the sustainability of natural systems.

VI. CONCLUSION

The typical definition of sustainable development describes it as a balance between economy, environment and equity, which is the so-called triple bottom line, and insists that future generations must not be disadvantaged relative to the present. For university campuses, the concept of sustainability has a particular perspective. As historic campuses persist through generations, their maintenance must be the focus of current and future planning. The triple bottom line of campus planning should therefore be considered as preserving the past,

building on the present and looking to the future. The intersection of these issues defines the beauty and function of contemporary university campuses. We present them here not only to document the experience of the University of North Carolina, but also to provide lessons for other university campuses and their communities seeking to develop sustainably.

ENDNOTES

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Spatial Planning and Design of Urban Blue-Green Network Based on Resilient City Theory

A Case Study in Chaozhou, Guangdong, China

Cailin Qiu, Tianjie Zhang
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Abstract

Urban blue and green space is a key element supporting the normal operation of urban landscape ecosystems and guaranteeing and improving people's lives. One key component of green city construction is to plan and create an ecological space where people and nature live in harmony to ensure that the city is energy efficient, livable, and sustainable. Based on the study of the historical evolution, traditional features and basic geographic information of Chaozhou in Guangdong, China. This paper finds that in the process of urbanization, natural disasters occur frequently due to the continuous expansion of construction land. Therefore, from the perspective of resilient city theory, the planning and design strategy of the integration of blue-green network system and traditional urban landscape is studied. Based on historical research, the planning and design comprehensively understand and inherit the regional landscape characteristics of Chaozhou from macro to micro. Based on this, advances the Chaozhou city blue green network planning design, follow the principle of sustainable development principle, systematic principle, adjust measures to local conditions, the principle of ecological priority, etc., aim at the existing urban infrastructure, combined with the water system, green land and farmland, settlement will be introduced in new Han Dong blue green network, creating a natural orientation of city water cycle, To stabilize the groundwater level, avoid soil erosion, cope with flood disaster, restore the natural ecology, improve the resilience of the city. At the same time, strengthen the landscape system of the city, maintain the landscape pattern of the ancient city, and stimulate the vitality of modern life while continuing the history and culture.

Keywords

Urban Blue-Green Network, Resilient City Theory, Spatial Planning and Design

How to cite

Cailin Qiu, Tianjie Zhang; "Spatial Planning and Design of Urban Blue-Green Network Based on Resilient City Theory: a Case Study in Chaozhou, Guangdong, China". In Carola Hein (ed.), *International Planning History Society Proceedings*, 19th IPHS Conference, City-Space-Transformation, TU Delft, 5 - 6 July, 2022, TU

Historic City protection vs Resilient City transformation
The Case of Skopje's Old Bazaar

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Abstract

The city of Skopje is a result of dialectical contradictions of diachronically different concepts of development and superimposed planning concepts of unfinished layers. The Old Bazaar represents one of the oldest urban fragments and shows a strong resilience and capacity to overcome numerous disastrous events. Unfortunately, due to the development constraints set by the preservation measures, and speculative building actions in the context, it is gradually but progressively losing its cultural identity and role as a creative socio-economic hub. Weak development policies and non-adaptive preservation regulations to changing environment and socio-economic development are urging actions to adopt new regeneration measures and appropriate approaches that could bring life into the valuable cultural heritage setting. Existing patterns emerging from the unique uses and spatiality of the Old Bazaar, as an exclusive area of commercial use and traditional urban fabric of cultural heritage, have to be preserved, but simultaneously it is important to introduce novel tools for applied creative industries and adaptive re-use of the building heritage. All efforts of appropriation of the cultural heritage area of the Old Bazaar according to the new sustainable and equitable economic opportunities, should be carefully tested and implemented in the context, in order to avoid any socio-environmental decay.

Keywords

cultural heritage areas, resilient preservation processes, creative industries, adaptive use, circular governance

How to cite

Siljanoska, Jasmina; Andonova, Elena; "Historic City protection vs. Resilient City transformation: The Case of Skopje's Old Bazaa". In Carola Hein (ed.), *International Planning History Society Proceedings*, 19th IPHS Conference, City-Space-Transformation, TU Delft, 5 - 6 July, 2022, TU Delft Open, 2022.

DOI: 10.7480/iphs.2022.1.6510

INTRODUCTION

The neoliberal hegemony, processes of globalization, rapid urbanization and usurpation of urban space imposed shifting urban planning policies to focus on using resilience in the context of urban environments. This buzzword highlights a conceptual framework for actions toward reconstruction, redevelopment, preservation and adaptation of the urban developments to climate changes and possible severe impact on the sustainability. Albeit the concept of resilience refers primarily to spatial, environmental and socio-economic dimensions of urban sustainability as a response to the rapid climate change, this initial definition is broadened when being applied to the built cultural heritage areas accordingly to the specific actions needed.

Preservation and promotion of the identity and original values of the cultural heritage areas bring forward actions which must be actively engaged in preventing degradation, adjusting, and overcoming weariness at several levels: spatial, technological, normative and functional. Following this premise, a double folded approach is required for the cultural heritage areas protection: an objective understanding of the inherent qualities which have made the cultural heritage area resilient to past transformations, and the identification of new strategies which would enable and foster its resilience in the future.

Due to the political, societal and economic shifts in the country in the last 30 years, it was imposed on the city of Skopje to adjust to all new complexities and scenarios regarding its urban development. In the post-socialist society development new approaches and shifting paradigms, such as division of powers and participatory planning, integration and interdisciplinarity in the urban planning realm, have become relevant.

The Old Bazaar area experiences shared local governance between two municipalities (Centar and Chair), but due to the dual nature of the municipal system in Skopje, both the city of Skopje and the two municipalities have shared authority over the area, as well. In addition, it falls under central government jurisdiction over preservation and protection regulations and building permits, which in the context of missing cooperation creates circumstances of overlapping actions of different authorities, and a situation of over-regulated and restricted development actions while, on another hand. There is a missing concern and a situation of operational vacuum and standstill, with no clear vision for the enhancement of the social, ethnic and territorial cohesion, participatory governance, as well as direct financial investments and technical support.

Because of the imposed over-protective regulations on the area, private investments in the development are discouraged, but the unwillingness of the authorities to engage innovative approaches, mechanisms and financial support to the local arts and crafts or creative industries development, as well, makes the whole process of sensible economic development in a protective manner agonizing instead of challenging. The local governments, and especially the owners and developers when submitting requests for development, show little awareness of the values of the protected architectural and cultural heritage area. In this situation of maintaining the status quo of the protected area, activities of informal, illegal, aggressive appropriation and inappropriate structures have emerged in the area with a strong identity.

Fig. 1. Strict regulations vs. loose control leads to informal and illegal appropriations

The historic urban areas are associated with their significance as agents of collective memory and the main containers of the cultural achievements of the communities. They are the main generators of cultural identity, and in most cases, real attractors that house important cultural and other public institutions. In this regard, the goal of the heritage-led regeneration process should create a stimulating environment for creative, innovative and inclusive economic and spatial practices in a historic part of the city, while providing visibility and new life to the complex historic layers of the area.

Fig. 2. Skopje's Old Bazaar and its wider area

THE OLD BAZAAR AREA AND MORPHOLOGY

Skopje's Old Bazaar, one of the biggest complex web like bazaars of medieval oriental character in the Balkans[1], is the first and to date the only historic area that was proclaimed by law in 2008 a "Cultural Heritage of Significant Importance". Skopje's Old Bazaar was evaluated as a cultural heritage of the highest importance and its urban regeneration was considered essential in revitalizing and reviving its historic, cultural and economic value.

Fig. 3. Old Bazaar's characteristic streetscapes

The Old Bazaar area is part of the historic wider area which is centrally positioned in the city of Skopje, and it is comprised of several distinctive and adjacent urban parts including, besides the Old Bazaar, the Medieval City Fortress, the main city open-air green market, the Cultural centre with the National Opera and Ballet, and other cultural institutions: six museums, four theatres and four galleries, as well as different commercial and entrepreneurial models from a small artisan workshop to a large software development company.

The nucleus of today's Old Bazaar was generated in the medieval period, in the 12th century when provisional shelters for traders along the east wall of the fortification, in the Lower town were turned gradually into shops of temporary construction. The Old Bazaar urban morphology[2] was defined by the typical medieval irregular, organic town model of urban form growth, in which scattered public buildings in the irregular urban fabric are stable urban form elements, while fragmented zones and urban blocks with vernacular units along the irregular street network of narrow alleyways follow the topography in geomorphological manner. This specific Ottoman urbanism urban morphology is mostly preserved to this day. At present, the remaining elements and units date back from the end of the 19th century and the beginning of the 20th century, while the public buildings, most of which are considered monuments of culture and date from the older periods, managed to preserve more of their authenticity. In a process of uncontrolled urban growth, in the first half of the 20th century, many of the typical groups of shops and traditional streetscapes, interesting vernacular architecture details as well as traditional crafts, have been lost. Moreover, the large-scale reconstruction which has been undertaken after the earthquake of 1963, al-

though greatly improving the infrastructure within the district, introduced new artificial materials (such as reinforced concrete), as well as narrowing the access to the focal points and vistas imperceptible.

The vernacular-built form of small urban blocks and grouped shops are site-specific architectural expressions. They are built as a direct response to the exclusively commercial use and crafts production of the Bazaar's area, and to the inherent behaviour patterns. General characteristic of the historic built area is the distinctiveness of each unit formation, each one leading to an individual solution and response to the needs of the owners, conditions of the location and social interaction patterns, which in the process of architectural and urban design is conceived as a unique challenge.

The irregular, organic fabric and built form of the Bazaar consists of numerous compatible and complementary uses of trade/commerce/craft building parcels of high density. Sitting on the building line they define the street front with its main façade, while attached parcels in a perimeter manner form the urban blocks and dominant built morphology of the Bazaar. There are several types of blocks in the Bazaar: a perimeter block with a public building (most commonly a Hann) with a central atrium; a perimeter block with a small inner yard; a fully built perimeter block with no free space and a semi-open perimeter block with an accessible inner yard. The most distinctive composition and perceptual reference point are the sacral and profane monumental buildings, especially the so-called Triade composition in the Ottoman urbanism, consisting of a mosque, a hammam and a han (inn). Most of the bigger Bazaars, in which category is the one in Skopje, have a Bezisten, as well (a typology of grouped-in-one building shops).

DEVELOPMENT OF THE OLD BAZAAR AND PRESERVATION MEASURES

Diachronically, the development of the Bazaar could be divided into three main periods. The first started with the occupation of Skopje by the Ottomans in 1392 and lasted until the great fire of 1689, which was set by the Austrian Army. From this period the Bazaar originates as a typical spatial and commercial development. The second period coincides with the rapid modernization of the Ottoman Empire through the Tanzimat reforms from 1839 to 1876, which were set to revive the Bazaar and boost economic growth. The third period is a period of Western European influence in the 20th century.

The urban planning period in Skopje started at the turn of the 20th century (the first Urban Plan from 1914 by Dimitrije Leko and the second from 1929 by Josif Mihajlovich) and promoted radical changes in Skopje's urban structure by relocating the city centre to the right bank of the Vardar River, thus downgrading the significance of the Old Bazaar. Following the planning period after World War II, the plan by L. Kubesh from 1948 marked the Old Bazaar as a former centre and urban fragment. Nevertheless, the Bazaar remained an important commercial and cultural area and part of the city centre.

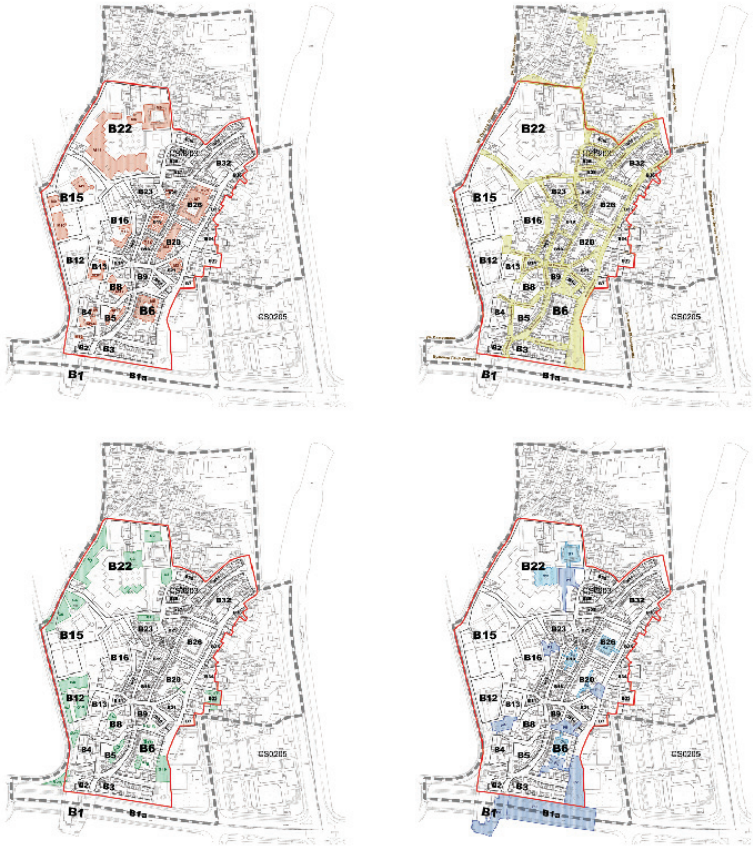

Fig. 4. Inventory by typology: cultural heritage monuments, street network, greenery, squares and semi-public spaces

The earthquake from 1963, as it usually happens with events of such a magnitude, marked and divided the periods of Skopje's development in pre-or post-fashion. The post-earthquake period of city urban planning and reconstruction activities concentrated on a much larger central territory, while the Old Bazaar was treated mostly as a protected building and cultural heritage area, integrated into the overall planning strategy of the time, but excluded from the main focus of interest or specific redevelopment guidelines. Although a more profound treatment of the Old Bazaar came into the focus of interest of the urban planning and preservation authorities much later, adjacent development of the city around the Old Bazaar's historic boundaries, with the new university complex, cluster of cultural institutions on the left bank of the River Vardar, new trade-commercial centre on the right bank of the River Vardar and the new road network, which intersected and disintegrated the Old Bazaar territory, heavily influenced the transformation of its social and urban fabric. The new plan for the city of Skopje centre development of Kenzo Tange displaced the historical central position of the Old Bazaar, redirecting the new axis development of the city with the commercial zone now organized on the right bank of the Vardar River.

Fig. 5. Cultural heritage preservation documentation: cultural heritage protected area and its contact zones boundaries (on the left); Inventory of the building stock (on the right).

Later on, the area of Skopje's Old Bazaar was a subject of several studies and programmes for its revitalization, such as the *Program for a detailed urban plan for the Bazaar and Kale Fortress in Skopje* by Boris Chipan in 1967 published by the Institute of Urbanism and Architecture in Skopje, then in 1998 *A study on built heritage with program directions for the revitalization of the Old Bazaar* and in 2000 *A study on redefining values and the borders on the heritage monument the Old Bazaar.* In 2007-2008 the *Elaborate for the revalorization of the Old Skopje's Bazaar,* which in the end resulted in the creation of the Law for the Old Bazaar[3] in which it was given a status of a cultural heritage area of significant importance. The adoption of this Law enabled permanent preservation of the values and authenticity of the Bazaar, creation of favourable conditions for the preservation of the integrity, building knowledge capacity and dissemination of the values of the Bazaar, its cultural, educational, scientific and other advantages for of the citizens, as well as prevention of actions that may cause damage or degradation. The Programme for the revitalization of the Bazaar, as part of the aforementioned law, was concentrated on urban rehabilitation as a method for the Old Bazaar revitalization. Of particular interest to the Programme is the physical space of the Bazaar and its architectural-urban protection and promotion, with emphasis on the following components: urban-morphological structure, street network and public spaces, architectural buildings and complexes, surrounding contact zones, communal infrastructure, traffic etc.

Presently, the boundaries of the registered and protected Old Bazaar area and its Contact zones have been clearly defined as was the protection and conservation regime specification of the blocks, open spaces and monuments in 3 categories: First degree (most important), Second degree (important) and Third degree (ambient value). The "Revalorization of Skopje's Old Bazaar Elaborate", which was prepared by the National Conservation Center-Skopje in September 2006, clearly defines the territory, conservation measures, and boundaries of the protected area and its contact zones.

The designated cultural heritage area of the Old Bazaar, although being under protection by a special Law, has been under continuous threat from a variety of economic, social and environmental pressures. The governance model currently in operation requires substantial economic resources and financial support, which comes mostly from a diminishing tax base. This traditional single custodian model of cultural heritage management faces challenges for the long-term sustainability and resiliency of the Old Bazaar.

ALTERNATIVE APPROACHES FOR THE REVITALIZATION OF THE OLD BAZAAR

It is obvious that alternative approaches to the Old Bazaar's governance and management are needed for a more inclusive revitalization process to be achieved. These new approaches require transparency and circular processes in terms of attracting multiple stakeholders to get engaged in inclusive decision making and shared long-standing responsibility. These alternative approaches should comply with several principles if the intention is to be sustainable and successful in the long run, which are: All governing processes have to be open to all members of the society; It has to be of a participatory nature, aiming to encourage all the interested community members to engage in an open dialogue, while enabling inclusiveness by engaging a wide diversity of expertise and interests; Each decision-making process has to be transparent and easily understood from the outside, in order to enable new actors to be engaged with ease and participate in the long term; Each governing body must be held accountable for its actions and communicate with clear and concise information, thus building a foundation for mutual trust; All parties involved should be encouraged to new forms of partnerships among different actors through collaborative conceptualization, development, implementation and management.

To test out alternative approaches toward the governance of the Old Bazaar, and the possibilities available for sustainable collaboration and resilient development of the area, the Skopje Urban Living Lab (SkULL) was established, as a creative hub for different activities undertaken within the ROCK Horizon 2020 project. We will use and elaborate on some of the outcomes of the ROCK project, in which we have actively participated. In the framework of ROCK's systematic approach (a circular urban system), it was investigated how this cultural heritage is linked to the other policy areas (sustainable change mitigation, urban regeneration and adaptive re-use). ROCK project vision for Skopje was developed around the idea of transforming the historic area by promoting creative and technological supported spatial practices in a more resilient regeneration process based on a sustainable economy, by bringing different stakeholders together in creative collaborative living labs.

As the Old Bazaar historically has functioned as an area in which the concepts of sharing and collaboration were inherent and central to its spatial and functional resilience, it was only logical to try and build upon that tradition in the search for innovative ways of involvement of local stakeholders in the regeneration of the area, while at the same time preserving and revitalizing its social, economic and cultural diversity.

Fig. 6. SkULL as a creative hub for different activities and stakeholders' inclusion

Recent history shows numerous efforts in which the area of the Old Bazaar has been the subject of different short-lived initiatives and collaborative inclusion of different stakeholders, but unfortunately, as they have been poor in delivering the expected outcomes, most of them resulted in a considerable amount of distrust among the shop owners and other stakeholders, which affected possible outcomes of an urban living lab exercise, as well.

When developing the programme of activities, the starting point was to identify the constraints in the mutual coordination when applying new approaches to the policies and practices of the municipalities, other governmental bodies and public agencies. By carefully selected activities and open-to debate-topics, in which different ROCK partners were involved, SkULL managed to regain the interest of the local shop owners, as well as of young people and other interested parties, who felt the potential of the area. Gradually, SkULL managed to become a platform

for distributing and acquiring information and to fully involve stakeholders in its activities. To enable the processes of co-creation, joint decision making and sharing responsibilities, the Laboratory created a network of local stakeholders and data infrastructure. It managed to start serving as a forum for dialogue and for testing new technologies, policies and solutions, which was and still is of utmost importance for the cultural heritage area's resilient transformation.

It was realised that the essence of creating an effective urban living lab necessitated the making of a network and data infrastructure, which could be shared among the local stakeholders and the ones responsible for the vitality of the Old Bazaar. Aiming at developing a local ecosystem of stakeholders, it was started by identifying all parties involved in the Old Bazaar regeneration. The collaborative nature of an urban living lab meant bringing together multiple stakeholders (researchers and artists, companies and the business community, NGOs, citizens, politicians and local government officials) who were to complement each other with their diversity of competencies, knowledge and skills, financial resources and political influence. This accomplishment is still considered one of SkULL's greatest successes.

It was evident that diminished cultural identity, phenomena of marginalization and degradation in the historic city, required new methods and approaches to design and to the complex dynamic systems of cultural heritage management. The majority of actions undertaken were related to the provision of new insight into the potential of the protected heritage area and to the exploring of new opportunities for qualitative spatial re-use and re-design of neglected, or underused areas and structures in the Old Bazaar. One of the main challenges was to develop a new perception of the area. Instead of conceiving the area as a mere tourist attraction, insisting on "conservation of the original" and ignoring the existing trend of ever-decreasing diversity of uses and crafts, it was suggested to foster re-use or insert new contents into the area, which would either support the crafts and uses that have survived, or introduce new compatible emerging creative industries. Moreover, the co-existence of differences was proposed as a leading paradigm in the process of cultural heritage preservation and revitalisation.

Based on the above-mentioned premises different scenarios and approaches have been tested aiming at finding new propositions and solutions for the redevelopment of the protected area of the Old Bazaar. The objective was to explore the potential of Old Bazaar territory in order to create new social and economic possibilities, by following the existing patterns of spatial and functional use, while simultaneously using creative industries and contemporary crafts for envisioning future development. These all have contributed to the important shift in comprehending the importance of civic engagement and a wide range of opportunities for different development and a fresh look at a resilient future.

SKULL proved to be a hub of actions, with initial potential to generate economic and technology-driven models for smart and creative urban environments with sound solutions at the local level. The main regeneration theme was concentrated on the possible transformation of the historic area into a knowledge, culture and technology-driven hub while introducing innovative businesses and working models. These propositions as outcomes of the organised workshop with the participants from the creative industries and ICT sector provided meaning and coherence both from the past and for the future social and economic development of the area.

CONCLUSION

An unprecedented acceleration of environmental, landscape and climate changes as well as cultural, economic and technology-driven modifications affects the sustainability of the cultural and building heritage protected area of the Old Bazaar. Between the two realities of possible development: the one which insists on conservation of the values and original character of the Old Bazaar, and the second, which adopts necessitate changes to new adaptive re-use, technological advances, and new models of working environments, certainly the new active regenerative approach toward development and resilient transformation of the area is much more sustainable.

We are witnessing in recent times that the area has fallen victim to the loosely controlled development processes influenced by strong market-oriented speculative actions, resulting in a gradual loss of its cultural identity and degradation of its built stock, but it is partly because of the over-regulated preservation measures or over-lapping authorities and miscommunication, as well.

The original qualities, which have shown real resilience to all transformations in the past and adaptation to changes, have endured and lasted longer than in any other historic area in the city, which as a lesson from the past development must be extended and stimulated as behaviour in the future.

The Skopje Urban Living Lab that was established as part of the ROCK Horizon project 2020 has demonstrated that the Old Bazaar was a productive testing ground for alternative ways of governing cultural heritage areas, The aim was to use the historic urban area and the cultural heritage as an arena for testing new, compatible with the protected area uses, technologies, solutions and policies, in the pursuit of a livable urban environment and participatory approaches. In the approach implemented during the living laboratory period, it was insisted on new perception to the protection of heritage, beyond perceiving historical city areas as mere touristic attractions submitted to the logic and mechanisms of consumption.

The adoption of regeneration measures, which utilize ICT advantages, include technologies and services in creating new ways of accessing or appropriation of the cultural heritage by avoiding socio-environmental decay while, taking into account market trends and new commercial opportunities, is challenging but the only possible progressive and active approach to preservation and regeneration of the Old Bazaar. This way heritage led regeneration process was certainly a real response to resilient transformations while, stimulated environments for creative, innovative and inclusive economic and spatial practices. The synergies between the technology and creative industries supported societal and economic regeneration, might be the right future development towards interaction between the local community of the Old Bazaar and new models of working in a socially inclusive process.

ACKNOWLEDGEMENTS

Skopje Urban Living Lab was part of the ROCK (Regeneration and Optimisation of Cultural heritage in creative and Knowledge cities). This project has received funding from the European Union Horizon 2020 research and innovation programme under grant agreement No 730280.

DISCLOSURE STATEMENT

No potential conflict of interest was reported by the author.

NOTES ON CONTRIBUTORS

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Elena Andonova has a master's degree from the Faculty of Architecture, University of the Ss. Cyril and Methodius in Skopje and is currently working as a teaching assistant at the Institute of Urbanism at the same university. Elena has worked on numerous projects both in the private sector as well as on several awarded international competition entries mostly focusing on public spaces. Her interests are oriented toward exploring urban planning and its ties and influences to other social sciences in the neoliberal society.

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The community resilience characteristics in old urban area in the process of tourism urbanization

Example: Yangliuqing Town, China

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Abstract

Entering the industrialized modern society, the global capital expansion is intensified, the multicultural collision is fierce, and the urbanization and urban regeneration process of various countries is accelerated. Under this background, the heritage communities in the old urban areas are often subjected to great man-made disturbance and risks because of their superior location and low-density buildings. In recent years, the importance of sustainable development of urban villages and heritage communities is increasing day by day. China's urbanization development is the most prominent part of the global urbanization process. In 2020, China's urbanization rate reached 63.89%, and China had entered the development stage from incremental expansion to urban regeneration. In this context, China's Ministry of Housing and Urban-Rural Development put forward the initiative of "Implementing Urban Regeneration Action" in November 2020, which means that urban construction activities in the old city will become increasingly frequent in the future. Therefore, scholars and the government urgently need to summarize the problems existing in the past urbanization process, and provide reference for the current urban regeneration stage. In fact, in the process of rapid urbanization in the past, a large number of cities in China expanded their urban areas on the one hand, and carried out demolition and real estate development activities in old urban areas on the other hand. Although the central government is aware of this serious problem, and since 1986, the State Council has issued relevant policies to establish and improve the heritage protection system of "Historical and Cultural City-Historical and Cultural Town-Historical and Cultural Village", some cities and towns in China still have "protective damage" to historical and cultural heritage. In the name of cultural heritage, some local governments demolished distinctive, real and colorful historical buildings, and built fake antique buildings in the original site. In addition, a large number of local governments applied the transformation of shanty towns to the transformation of old cities in famous historical and cultural cities and towns. In the name of improving people's livelihood, they evicted the aborigines in the plots and built modern commercial and real estate projects, which caused serious damage to the street texture and neighborhood relations of heritage com-

munities in old urban areas. Residents who have been forced to move out have lost their land, and their economic income has also been affected. On the other hand, there are barriers to social integration with residents of different classes in the new community. Based on this, this study takes Yangliuqing, a national Historical and Cultural Town in China, as a case study, and takes heritage communities as research units, focusing on its spatial evolution process in the process of rapid urbanization, systematically analyzing its evolutionary dynamic mechanism and evaluating its community resilience. The research results have certain theoretical and practical significance for enriching the theory of world heritage protection and guiding the spatial reconstruction of small towns in China in the new round of urban regeneration.

Keywords

Urban Blue-Green Network, Resilient City Theory, Spatial Planning and Design

How to cite

Cailin Qiu, Tianjie Zhang; "Spatial Planning and Design of Urban Blue-Green Network Based on Resilient City Theory: a Case Study in Chaozhou, Guangdong, China". In Carola Hein (ed.), *International Planning History Society Proceedings*, 19th IPHS Conference, City-Space-Transformation, TU Delft, 5 - 6 July, 2022, TU Delft Open, 2022.

5 JULY: SESSION 1.2

THE JAPANESE GARDEN CITY.

Chairs: Marco Amati, Fukuo Akimoto

Rethinking town-country relationship through the interpretation of Howard's Garden City by a Japanese agronomist

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Abstract

Ebenezer Howard proposed to achieve the fusion of town and country in his garden city theory. For this reason, in Japan, Howard's garden city concept attracted interest not only from people in the field of city planning, but also from agricultural and country planning. This paper aims to discuss the differences between town-country relations in the UK and Japan by analyzing the characteristics of the interpretation of the people in the agricultural or countryside field at that time. The study consists of; 1. To analyze how an agronomist who first read "Garden Cities of To-morrow" in Japan interpreted Howard's garden city theory. (2) To analyze the background that led to such an interpretation different from the original Howard's garden city theory, in social and physical environmental conditions at the time. (3) To analyze how the characteristics revealed by the above analyses have influenced the subsequent development of planning system in Japan, through examining the development of Japanese urban and rural planning, This study does not discuss whether Howard's garden city theory was properly accepted or understood. But by focusing on the feature of the interpretation and how it became differ from the original Howard's garden city, the differences between town-country relationships and how such differences occurred in the subsequent development of urban and rural planning in Japan are discussed. Firstly, the interpretation of Tokiyoshi Yokoi, the agronomist who first purchased a Howard book in Japan was examined. Yokoi commented that Howard's proposal could not solve both urban and rural problems at the same time, although Howard wrote so. Tokiyoshi Yokoi criticized Howard's garden city paid too much attention only to the urban issues and considered garden city as just a concept to bring rural elements into the city. In particular, He, then, insisted that what was needed in Japan was a solution to the rural problem rather than a city problem, and proposed to create an urban-like country. Yokoi's view showed that there was a big difference in the recognition of the fundamental problem rather than understanding garden city correctly or not. And secondary, comparative analysis of the condition in urban and rural areas in Japan and the UK around 1900 revealed that the awareness of urban issues at that time were less serious in Japan than in the UK. Therefore, they paid more attention to rural issues such as poverty or inequality, rather than urban issues such as sanitary conditions or urban sprawl. Besides, the city side looked down on the coun-

tryside. As a result, there was no motivation for rural conservation in Japan while the CPRE (Council for the Preservation of Rural England) influenced the planning policies in England. The rural planning policies in Japan aimed to resolve poverty of the farmers in the countryside rather than to resolve the destruction of rural landscape caused by urban sprawl. The result of the third analysis indicated that this feature remained for long and caused the gap between urban and rural planning system in Japan.

Keywords

urban-rural relationship, historical transformation, town and country planning

How to cite

Murakami, Akinobu; "Rethinking town-country relationship through the interpretation of Howard's Garden City by a Japanese agronomist". In Carola Hein (ed.), *International Planning History Society Proceedings*, 19th IPHS Conference, City-Space-Transformation, TU Delft, 5 - 6 July, 2022, TU Delft Open, 2022.

"The International Town Planning Conference Amsterdam 1924" Revisited

Was the prototype of the Tokyo Circular Green Belt Plan 1938 the third resolution?

Fukuo Akimoto
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Abstract

Peter Hall wrote, in the history of the green belt idea in Britain there have been several possible objectives: "one is pure containment: the idea of stopping towns growing any larger"(o1, hereafter); "another is to give adequate access to the countryside for recreation of townspeople"(o2, hereafter); and "a third is …to preserve agriculture and a rural way of life"(o3, hereafter), while there are also several different forms: "at one extreme, a narrow green belt"(f1, hereafter), and "at the other extreme, the countryside can be preserved in toto, with urban development allowed at intervals against a green background" (f2, hereafter). He emphasized that Howard's Green Belt (o3, f2) was very different from the concept as it is now popularly used (o1, f1) ([1]:52-54). In July 1924, the International Federation for Town and Country Planning and Garden Cities held an international town planning conference in Amsterdam and passed seven resolutions, the third of which said "it is desirable for the built-up parts of cities to be enclosed by green belts intended for, and to remain set apart for agriculture and horticulture, cattle breeding, etc. in order to prevent the formation of endless seas of houses"([2]:54-55). In 1938, the Urban Planning Tokyo Local Committee proposed a plan of a narrow circular greenbelt two kilometers wide (f1) around the City of Tokyo "for the prevention of over-grown city"(o1) ([3]). After World War Two, some speculated that the prototype of the Tokyo Circular Green Belt was the third resolution of the Amsterdam conference([4]:145-148). Thereafter, this view has been widely accepted in Japan. However, the planner Kazumi Iinuma, who introduced the Amsterdam resolutions into Japan and repeatedly referred to them even after the war, did not present the third resolution as the prototype. And the Japanese planners involved in the Tokyo Circular Green Belt plan, only few people referred to the third resolution. Saburo Kimura, who studied the London Green Belt Plan and was also involved in the Tokyo Circular Green Belt Plan, did not mention the third resolution at all. The fundamental problem of this hypothesis is the lack of verification: it has not yet analyzed the background of the third resolution through the Amsterdam conference minutes.

This paper refutes the prevailing view by analyzing the green belt ideas of Howard, Purdom, the conference resolutions, Unwin's Greater London Regional Planning Committee's report as well as those of the Japanese planners from the 1920s to the 1940s, and reaches the following conclusions: (1) The third resolution proposed not "a ring-like narrow green belt (f1) to contain a large city (o1)", but the continuous agricultural areas against which garden cities would constantly multiply (f2, o3). (2) In the Greater London Regional Planning Committee's Second Report in 1933, Unwin introduced a green girdle, or a narrow green belt (f1) for the recreational use (o2) as well as urban containment (o3). (3) The Tokyo Circular Green Belt Plan was made with reference to Unwin's Second Report. Hence, the prototype was not the third resolution but Unwin's report 1933.(1) The third resolution proposed not "a ring-like narrow green belt (f1) to contain a large city (o1)", but the continuous agricultural areas against which garden cities would constantly multiply (f2, o3). (2) In the Greater London Regional Planning Committee's Second Report in 1933, Unwin introduced a green girdle, or a narrow green belt (f1) for the recreational use (o2) as well as urban containment (o3). (3) The Tokyo Circular Green Belt Plan was made with reference to Unwin's Second Report. Hence, the prototype was not the third resolution but Unwin's report 1933.Firstly, the interpretation of Tokiyoshi Yokoi, the agronomist who first purchased a Howard book in Japan was examined. Yokoi commented that Howard's proposal could not solve both urban and rural problems at the same time, although Howard wrote so. Tokiyoshi Yokoi criticized Howard's garden city paid too much attention only to the urban issues and considered garden city as just a concept to bring rural elements into the city. In particular, He, then, insisted that what was needed in Japan was a solution to the rural problem rather than a city problem, and proposed to create an urban-like country. Yokoi's view showed that there was a big difference in the recognition of the fundamental problem rather than understanding garden city correctly or not. And secondary, comparative analysis of the condition in urban and rural areas in Japan and the UK around 1900 revealed that the awareness of urban issues at that time were less serious in Japan than in the UK. Therefore, they paid more attention to rural issues such as poverty or inequality, rather than urban issues such as sanitary conditions or urban sprawl. Besides, the city side looked down on the countryside. As a result, there was no motivation for rural conservation in Japan while the CPRE (Council for the Preservation of Rural England) influenced the planning policies in England. The rural planning policies in Japan aimed to resolve poverty of the farmers in the countryside rather than to resolve the destruction of rural landscape caused by urban sprawl. The result of the third analysis indicated that this feature remained for long and caused the gap between urban and rural planning system in Japan.

Keywords

Urban Form, Planning Legacy, Cross Cultural Exchange, The Concept and Metodology of Global/World Planning History

How to cite

Akimoto, Fukuo; ""The International Town Planning Conference Amsterdam 1924" Revisited: Was the prototype of the Tokyo Circular Green Belt Plan 1938 the third resolution?". In Carola Hein (ed.), *International Planning History Society Proceedings*, 19th IPHS Conference, City-Space-Transformation, TU Delft, 5 - 6 July, 2022, TU Delft Open, 2022.

A Theory-Based Approach to Urban Planning at the City Edge
An Analysis of Japan before World War II

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Abstract

Early urban plans in Japan, such as the Tokyo Park System, included wedge-shaped green belts that penetrated urban areas. The reasons for their establishment, however, were unclear. To explore the reasons behind them, focusing on the outskirts of cities is necessary. Therefore, the purpose of this study was to focus on the green areas at the edge of urban areas to decipher the ideas of urban planning experts from that time and clarify the planning background behind these wedge-shaped green spaces. By keyword searches at the National Diet Library, thirty-nine documents on urban planning up to 1945 were selected. Subsequently, we analyzed them with a focus on the ideal city size and objectives of green spaces. As a result, many experts believed that cities should be developed in a planned manner. Furthermore, most experts understood green belts as a natural enclosure for the artificiality of the city, instead of a non-urban area to control the area of the city. From the above-mentioned results, it is believed that wedge-shaped green spaces emerged to satisfy the demands of the experts of the day, which were to 'develop cities', 'prevent continuous urban areas', and 'bring cities and nature closer together'.

Keywords

wedge-shaped green space, green belt, urban expansion, small town theory

How to cite

Sanada, Junko; Nakagawa, Takaaki; Kataoka, Shiho; "A Theory-Based Approach to Urban Planning at the City Edge: An Analysis of Japan before World War II". In Carola Hein (ed.), *International Planning History Society Proceedings*, 19th IPHS Conference, City-Space-Transformation, TU Delft, 5 - 6 July, 2022, TU Delft Open, 2022.

DOI: 10.7480/iphs.2022.1.6502

INTRODUCTION

The Tokyo Park System, the Kanto Region Metropolitan Structure Plan, and the Tokyo Metropolitan City Plan for Postwar Reconstruction presented urban visions that ushered in modern urban planning in Japan, and each plan included wedge-shaped green belts that penetrated urban areas.

The reasons for their establishment, however, are unclear. For example, the Tokyo Park System (1939) only mentions that 'green belts are one means of preventing the overexpansion of the greater Tokyo Metropolis, which is expanding infinitely (omitted), and shall include numerous wedge-shaped green spaces to heighten its effect'.

To explore the reasons behind the creation of these wedge-shaped green spaces, it is necessary to focus on the outskirts of cities. Therefore, the purpose of this study was to focus on the green areas at the edge of urban areas to decipher the ideas of urban planning experts from that time and clarify the planning background behind these wedge-shaped green spaces.

LITERATURE REVIEW

Multiple studies on ideas in pre-war urban planning have been published to date. Kohji Takeuchi et al. clarify the urban planning ideas of the architect Toshikata Sano based on his discourses on urban planning. Yuji Kawase et al. focus on the urban planner Hiroshi Ikeda, known as the Father of Urban Planning, and attempt to explain his philosophy on the subject.

In studies on the influence of European ideas, Akinobu Murakami studied the transfer of Howard's idea of the garden city. Sanada studied the significance of green spaces and parks in the early years of urban planning, taking into account the influence of European ideas.

Most studies that explored the philosophy behind urban planning focused on a single individual or a specific subject; thus, it has not been possible to understand the ideas on urban planning that include experts from every field involved in urban planning at the time.

RESEARCH METHODS

In this study, the National Diet Library was queried for documents up to 1945 that contained the keyword 'urban planning'. Thirty-nine documents on urban planning published before the war were selected from the results and used as data (Table 1). Based on these documents, Section 'The experts' understanding of a "city"' demonstrates how writings on urban planning from experts at the time provide an understanding of how they perceived the urban situation and urban problems. Section 'The ideal city size' focuses on city size, which is closely related to the green spaces that encompass cities, and clarifies concepts of the ideal city. Some experts supported the small town theory as the ideal city, and so Section 'Interpretations of

small town theory' clarifies how they viewed these green belts encompassing larger cities. The last section summarises what this research uncovered and then uses journal articles from the time as clues into the reasoning behind wedge-shaped green belts.

THE EXPERTS' UNDERSTANDING OF A 'CITY'

This section provides insight into how the experts of the time perceived the state of urban areas and the problems facing cities when writing books on urban planning.

(1) THE STATE OF URBAN AREAS

Regarding the state of cities, in his 1908 publication A Study of Cities (Discourse 1. The number attached to each discourse corresponds to those in the above table), newspaper proprietor Miyake Iwao stated 'that the population of cities grows every year and that they are becoming increasingly more prosperous is a generally recognised fact requiring no explanation.' Discourse 4 also states that 'the development of modern cities differs significantly from that of ancient or mediaeval cities in that the momentum of quantitative development is particularly rapid.' This was mentioned in discourses from each year (7, 10, 12, 14, 20, 31, and 38), and experts at the time shared an understanding that urban population growth was significant.

Discourse 5 notes that population growth 'is characteristic of modern cities in that large buildings cover even the smallest city plot and that force exerts itself beyond the urban areas as the city continues its development', an observation recorded in other discourses from various times (6, 19, 26, 27, 31, and 34). Many experts considered the urban situation of the time to be one of population growth in urban areas and residences expanding into suburban areas.

Regarding the relationship between urban development and transportation, Discourse 9 points out that 'it is no exaggeration to say that cities always emerge and develop in places with good transportation centres'. This sentiment can also be found in discourses 8 and 18.

(2) URBAN ISSUES

Of the 27 discourses that reference urban issues, most identify population density as the premise. For example, Discourse 18 says that 'a number of problems occur when centralisation causes cities to absorb capital and population, which in turn leads to their gradual expansion and loss of balance. Traffic congestion is one of the most important issues'. Discourse 21 says that 'a relatively large number of people and homes congregating in a relatively small area create frequent congestion and complicated living conditions, and eventually leads to physical and mental issues in citizens, such as sanitation problems, disarray, and conflict'. This discourse focuses on the negative effects of population density, as do 2, 4, 12, 25, 28, and 38.

On the other hand, literature from the 1920s (1, 6, 7, 10, 16, 17, 20, and 27) focuses more on problems involving unplanned urban population density rather than density itself, as the effects of urban planning may have been less visible at the time. For example, Discourse 10

states that 'the harm of urban life is that this rapid urban expansion proceeds uninhibited and no steps have been taken to address it'. These sources do not always see population density as a bad thing.

Many experts were concerned about urban expansion, and they can be divided into two categories: those who saw large cities themselves as the problem and those who viewed the problem as one of unplanned expansion and not urban expansion per se. As an example of the latter, Discourse 14 states that 'failure to plan for and control the areas adjacent to cities, which are expanding ever faster in their attempt at infinite expansion, will force us to repeat the bitter experiences currently facing the suburbs of Osaka and Tokyo'. Similarly, discourses 8, 9, 17, 22, 24, 26, and 27 view unregulated development as the problem, as do many discourses from the late 1920s onwards. Other problems with the geographic expansion of city areas were found in discourses 19, 20, 31, 34, 35, and 39. They do not, however, clarify the problems involving urban expansion. They are nostalgic reasons, such as the loss of access to nature. This small town theory appears more often in discourses starting in the late 1920s and was the prevailing opinion of bureaucrats and technicians in the Home Ministry.

Seen in this way, it can be said that the issues surrounding cities have gradually shifted from population density, congestion, and unplanned congregation to uncontrolled expansion, which in turn led some experts to view urban expansion itself as the problem. While many experts considered unplanned and uncontrolled concentration and expansion to be problems, many were not actually opposed to concentration and expansion in and of themselves and believed that 'cities should expand'.

THE IDEAL CITY SIZE

This section examines discourses to clarify the experts' conceptions of the ideal city. Twenty-seven of the 39 discourses contained references to ideal cities. Looking at them in relation to the size of the urban area, which is closely related to the peri-urban green space, it was found that they could be divided into three main categories: 'support', 'opposition', and 'indifference' to the geographic expansion of cities. This section provides a detailed review of discourses in each category.

(1) SUPPORT FOR URBAN EXPANSION

These authors favoured the expansion of urban areas. Eight of the 27 discourses—or approximately one-third—held this opinion. It was most common up to the early 1920s and then not seen again until 1930. Discourse 1, for example, sees population density as a problem and therefore states that density must be reduced by expanding cities. The same applies to discourses 2, 4, and 5.

Discourse 8 discusses the urban ideal in terms of density rather than area, stating that 'in urban planning, it would be appropriate to define an area-to-population ratio (omitted) of 10 tsubo (33 square metres) for residential areas in urban areas and 20 tsubo (66 square metres)

in suburban areas'. The same is true of Discourse 9, wherein planned expansion is the ideal.

Discourse 13 contains something similar, but as a specific structure within a larger part, saying 'the surrounding residential areas that provide order to a city should be garden suburbs surrounding a small hub'. The idea is to expand the residential areas around large cities.

Discourse 21, which was published at a slightly later time, describes the need to encourage expansion in order to avoid overcrowding, and then notes that cities will not continue to expand if left unchecked, saying 'urban expansion cannot be infinite and is always limited to the extent that residents of a city find it convenient for their urban activities'. The author appears to have been aware of the emerging contemporary views that opposed the geographic expansion of cities.

It can be said that the idea of enlarging cities as a solution to densification has led to a greater awareness of the appropriateness of enlarging parts of cities.

(2) OPPOSITION TO URBAN EXPANSION

This section examines discourses that view the expansion of urban areas negatively. Seven of the 27 discourses that discuss city size, or about one quarter, hold this view. This opinion emerged in the late 1920s.

In discussing the ideal city, the author of Discourse 19 states that 'my ideal with regard to urban planning is that each city should be built according to the Garden City theory and be organised according to the theory of local planning', indicating that the author idealises small cities based on garden cities. For city size, the author says that 'cities should expand in the same way that life progresses. Cities, like other organisms, do not expand unnecessarily once they have reached a suitable size, but give rise to different cities as new cities once they have reached an appropriate size.' His view can be expressed as one that permits cities to expand to a certain size but disapproves of expansion beyond that size. Discourse 27 from the same author and Discourse 34 by an urban economist express similar views.

Discourse 26 states that in order to 'counteract the expansion of urban areas', it is 'necessary to use agricultural land to stop urban over-expansion and prevent nearby satellite cities as they are called in regional planning from being engulfed by the expansion' and that 'at any rate, if coercive measures with effects similar to regional systems established under the law are not taken, it will be impossible to easily maintain agricultural land.' The author, Yoshichi Asami, had a PhD in agriculture, so his ideal was to protect the agricultural land around urban areas.

Discourse 31 takes a position against urban expansion, saying that 'expansion and growth is not a good thing'. The book also introduces garden cities and satellite cities, but says that simply establishing agricultural zones to separate small cities from each other will not be effective; it states that it is necessary to 'carefully consider and work on plans that include comprehensive plans for large, medium, and small cities to act as liaison networks between large cities or regional plans centred on large cities, with each plan also considering the hundreds of thousands of rural villages contained within them'. Instead of focusing only on cities, rural

planning proposes preventing the urbanisation of rural areas by planning urban and rural areas simultaneously. Discourse 14 also takes this same rural-based approach.

Discourse 35 from the urban planner Hideaki Ishikawa says that 'the existing large cities use too much land, partly because of the expectation that cities should develop without constraint. If there were to be any concept for controlling cities, it must be done in a way that "the bigger the city grows, the more it shrinks"'. Not only does he oppose urban expansion, but he even believes that cities should be made smaller. The author describes the need to decentralise cities to realise this ideal and proposes a method for doing so by dividing current metropolises into three zones, with the current city as the 'controlled zone', the outermost circumference of the city as the 'development zone', and the green space between these two zones as the 'restricted zone', with smaller cities contained within the green spaces.

(3) INDIFFERENCE TO URBAN EXPANSION

The third category includes authors who are indifferent to urban expansion. This refers to discourses that contain no reference to urban expansion or, if it is considered a problem, those that do not reflect it in their ideals. It is the largest of the three categories, covering 12 of the 27 discourses that discuss the ideal city. This sentiment existed for a long period of time, from the start of the 1920s until the pre-war period.

Discourses 6, 7, and 25 discuss concentration in cities and express their ideal as a symmetrically planned city, with no concern over size.

Discourse 10 involves the issue of population density, with a decentralised population as the ideal. It claims that 'modern city management must be based on a "comprehensive city plan" that makes the city the centre of rural areas and places rural areas on the edge of the city'. At first glance, it appears to share Discourse 31's opposition to urban expansion, but it makes no reference to city size and is solely concerned with the distribution of population between urban and rural areas. This is also the case for Discourse 17.

Discourses 18, 20, and 24 also aim to disperse the population from an urban perspective, but do not seek a balance between urban and rural areas and are not concerned with urban expansion.

Although Discourse 22 cites regional city theory, it views the theory as 'a method for decentralising industry and population' and is not concerned with urban expansion. The same applies to discourses 12 and 28.

Discourse 39 was written by Hideaki Ishikawa. Even though he says that large cities should be smaller in his Discourse 35 from 1941, he begins to question that idea in his discourse from 1943. He mentions that big cities are better for culture; small cities are better for human life (and national defence) and that he believes in the possibility of 'big/small cities' that would contain elements of both. These 'big/small cities' the author mentions are regions. Transportation channels connect several small cities that have rural villages and parks between them, and these small city clusters are grouped together as a single 'region'. The cities themselves are small, but when considered as a large administrative unit that is the 'region', they can be

thought of as a large city. Although the author's argument is rooted in considerations of large and small cities, it was classified as 'indifferent' because it discusses the relationship between cities and makes no mention of the geographic expansion of urban areas.

	Year issued	Title	Author	Author's occupation
1	1908	A Study of Cities	Iwao Miyake	Newspaper owner and politician
2	1916	A Study on Modern Cities	Yasushi Kataoka	Architect
3	1918	The Imperial Capital and Its Suburbs	Michitoshi Odauchi	Geographer
4	1919	The Demands of the Modern City	Hiroshi Ikeda	Home Ministry official and urban planner
5	1921	A Discussion on Urban Planning Legislation	Hiroshi Ikeda	Home Ministry official and urban planner
6	1921	Contemporary Urban Issues	Toshikata Sano	Architect, structural engineer, and technical high school principal
7	1922	Urban Management Theories	Hiroshi Ikeda	Home Ministry official and urban planner
8	1923	A Lecture on Urban Planning	Sanjiro Ishizu	Architect
9	1923	A Discussion on Urban Planning	Haruo Nakaizumi	
10	1923	Building Modern Cities	The Imperial Capital Reconstruction Institute Planning Department	
11	1924	Parks and Urban Planning	Keiji Uehara	Landscape architect and doctor of dendrology
12	1924	Cities and Parks (on Garden Cities)	Usaburo Takahashi	Dendrologist
13	1924	Housing Issues and Urban Planning	Hajime Seki	Social policy scholar, urban planner, and mayor of Osaka
14	1924	Urban or Rural?	Makoto Kono	
15	1925	A Discussion on Urban Planning	Secretariat of the Home Ministry, Urban Planning Department	
16	1925	General Theories of Urban Policies	Daikichiro Tagawa	Social activist
17	1926	Urban Planning	Yoshitane Tochinai	City beautification activist and journalist
18	1927	Urban and Rural Planning	Ryotaro Kurotani	Urban planner and mayor of Tsuruoka
19	1927	Urban Planning Theory and Legislation	Kazumi Inuma	Cabinet official
20	1928	Urban Planning and Road Administration	Shinzo Kikuchi	Home Ministry official
21	1929	Urban Planning and Legislation	Hayataro Okazaki	Urban planner
22	1929	General Knowledge for Urban Planning	Masakazu Morishita	Politician
23	1929	Urban Planning	Kazumi Inuma	Home Ministry official
24	1931	Advanced Civil Engineering and Urban Planning	Shinnosuke Uchiyama	Director, Osaka City Urban Planning Department
25	1932	Urban Planning Theory and Designs	Munemitsu Fujita	Home Ministry technician
26	1933	Transcripts of Lectures on Urban Planning (on Agricultural Regionalism)	Yoshichi Asami	Professor, Tokyo University of Agriculture and Technology, Doctor of Agriculture
27	1934	Late Night Discussions on Urban Planning	Kazumi Inuma	Home Ministry official
28	1935	Urban Planning Road Infrastructure and National Parks	Munemitsu Fujita	Home Ministry technician
29	1935	Urban Planning Essentials	Hideaki Ishikawa	Home Ministry technician and urban planner
30	1935	Urban Planning	Yasushi Kataoka, and Nobutake Yoshida	Architects
31	1935	An Overview of Urban Planning	Masanobu Imoto	Park technician (Aichi, Hyogo, Osaka)
32	1938	Air Defence and Urban Planning	Tokyo City Bureau of Urban Development, Urban Planning Division	
33	1938	Changes in Japanese Urban Planning and the Rush Towards Wartime Urban Planning	Tokyo City Bureau of Urban Development, Urban Planning Division	
34	1940	Theories on Modern Metropolises	Fukutaro Okui	Urban economist and Keio University professor
35	1941	Theories on Japanese Land Planning	Hideaki Ishikawa	Home Ministry technician and urban planner
36	1942	Applying Modern Urban Planning	Takashi Kunitomo	Urban planner
37	1942	Implementing National Land Planning	Hideaki Ishikawa	Home Ministry technician and urban planner
38	1942	Urban Planning	Central Association for the Promotion of Business Education	
39	1943	Urban Ecology	Hideaki Ishikawa	Home Ministry technician and urban planner

Table 1. Starfish-Shaped Urban Development

INTERPRETATIONS OF SMALL TOWN THEORY

The experts sometimes used the terms 'garden cities' or 'satellite cities' as examples when talking about their ideal cities. These terms appeared in 10 of the 27 discourses on the ideal city. Garden cities and satellite cities are originally linked to the small town and regional city theories, both of which are based on the idea of surrounding a city with a green belt to prevent the urban area from expanding. However, some discourses that support or are indifferent to urban expansion also champion this concept of small cities. Why is that? This section looks at how satellite cities and peri-urban green belts were understood in each of the discourse positions: support, opposition, and indifference.

(1) SUPPORT OF URBAN EXPANSION

First, only two of the nine discourses in favour of urban expansion mention garden cities (discourses 1 and 2). Discourse 2, however, mentions them as a renunciation of garden cities.

Discourse 1, which supports urban expansion but recommends garden cities, advocates reducing urban density by relocating factories to the suburbs and migrating the 'lower classes' there. That is not the only reason, however, as it notes the importance of 'getting them out of the city so that they can breathe fresh air and soothe their souls with nature.' This can be read as the author's interpretation of enclosing urban areas with the green space of garden cities because it would bring nature closer to cities, rather than as a way to prevent urban expansion.

(2) OPPOSITION TO URBAN EXPANSION

Next, six of the seven discourses that oppose urban expansion (discourses 14, 19, 26, 27, 31, and 35) mention garden cities or satellite cities. They object to the geographical expansion of cities, so it is only natural that they adopt an urbanism that limits city size. However, of these works, discourses 14, 27, and 35 simply introduce those theories, while other discourses attach different meanings to establishing green belts around a city.

Discourse 19 states that 'the countryside gives garden cities a pastoral flavour that modern metropolises have lost and permanently provides the rural landscapes and pastures that large cities have forgotten', indicating that the agricultural land around cities has value not only for its ability to limit urban expansion but also for its natural richness.

The author of Discourse 26 held a PhD in agriculture and saw the importance of securing green spaces around cities as agricultural land, as Howard advocated.

Discourse 31 states that we should 'preserve the natural scenery in city suburbs as much as possible and turn them into residential areas that incorporate as much nature as possible into our urban lives'. Here, too, the author sees value in the bounty of nature.

(3) INDIFFERENCE TO URBAN EXPANSION

Of the 12 discourses that were indifferent to urban expansion, 6 (12, 17, 22, 24, 28, and 39) con-

tained descriptions of small or garden cities. Three of these discourses (17, 22, and 24) only introduced the concepts, so the other three will be examined in more detail.

In introducing garden cities, Discourse 12 describes them as 'cities that are planned and developed to achieve perfect harmony between city and countryside, where residents can lead healthy urban lives with a rural flavour. Ideally, part of it should have a separate industrial area. The city should thus be permanently enveloped in an area spacious enough to retain its rural character, with the city administered by a municipality'. The word 'countryside' is used to describe the richness of nature and invoke a connection between nature and the city.

In Discourse 28, the author states that 'by returning the city to the countryside as a way to prevent the concentration of population from the countryside to the city, Mr Howard's book Garden Cities of To-morrow has caused a stir in Britain by aiming to harmonise cities and the countryside and integrate agriculture and industry under the banner of an ideal garden city'. Similar to Discourse 12, the word 'countryside' is associated with the richness of nature and suggests a joining of it with urban life.

Discourse 39 by the urban planner Hideaki Ishikawa examines garden cities in detail before adopting a negative view of garden city theory, citing that cities with populations of 20,000 or 30,000 people would not provide stimulating living environments. He advocates approximately 100,000 people as a good number and states that when dispersing the population, the space between cities must feature 'agriculture and parks'. Though their significance is not mentioned specifically, it seems important that they are 'not urban'.

(4) EXPERTS' VIEWS ON THE ROLE OF GREEN BELTS

The above exploration of opinions on urban expansion and peri-urban green belts suggests that the reason why garden cities and satellite cities are mentioned in discourses that support or are indifferent to urban expansion is that they see the role of peri-urban green belts as bringing the city and nature closer together rather than as a way to control urbanisation. Discourses that oppose urban expansion naturally see their role as a limit on urbanisation, but it can also be said that they see green spaces with their abundance of nature as a way to provide cities with a sense of the natural world.

CONCLUSIONS AND DISCUSSION ON WEDGE-SHAPED GREEN SPACES

So far, it is plain to see that many experts believed that cities should be developed in a planned manner. Clearly, a certain number of experts wanted nature and cities to be close together, even if the urban area expanded. On the basis of those findings, this paper will now use contemporary magazine articles as sources to consider the background from which wedge-shaped green spaces emerged.

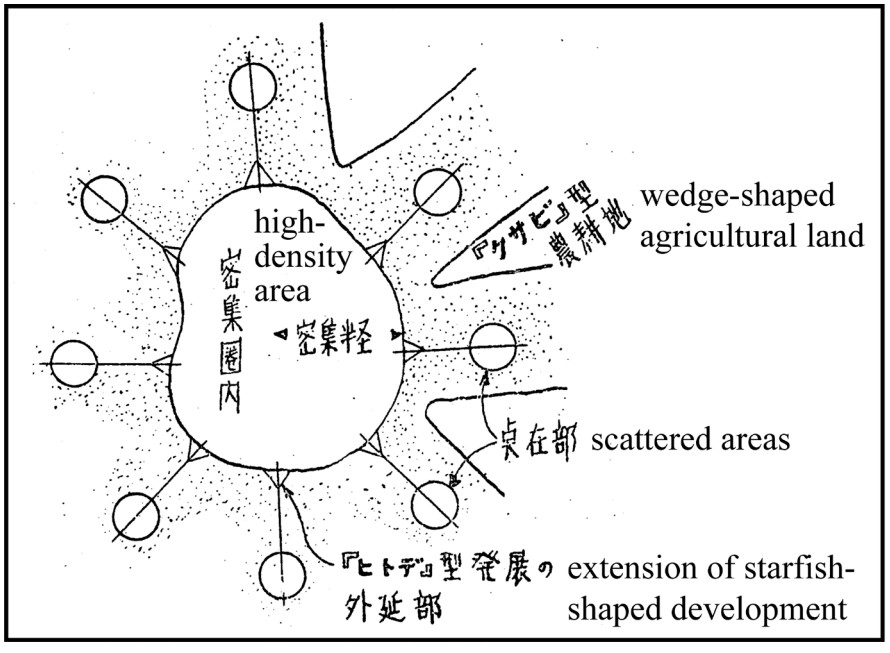

Fig. 1. Starfish-Shaped Urban Development

(1) WEDGE-SHAPED GREEN BELTS AND STARFISH-SHAPED CITIES

Seiichiro Nakazawa proposed the idea of wedge-shaped green belts. Then the director of the Osaka Prefectural Architecture Department, he stated in his 1937 'One Suggestion for Suburban Planning of the Great City' that 'the adverse effects of urbanisation are so obvious that they cannot be disputed any longer, but it is also impossible to stop them'. He then began his thesis with the question 'Is there any way to eliminate the harmful effects without interfering with urban development?'

He then discussed how the garden suburbs, which were seen as a by-product of garden cities, are actually linked to urban expansion, that proponents of garden cities reject garden suburbs, and that the concept of satellite cities is too vague before summarising the urban theories of the experts of the day and pointing out that he has not found any compromise between large city and small city theorists.

Nakazawa said that the 1910 proposal of wedge-shaped green spaces by the Eberstadt et al. 'provided me with a tremendous suggestion for suburban development' that he referred to in order to 'create green spaces in large cities that preserve the natural advantages of the suburbs while simultaneously acknowledging the development of large cities. This allows for the possibility of dispersing people to more distant satellite cities'.

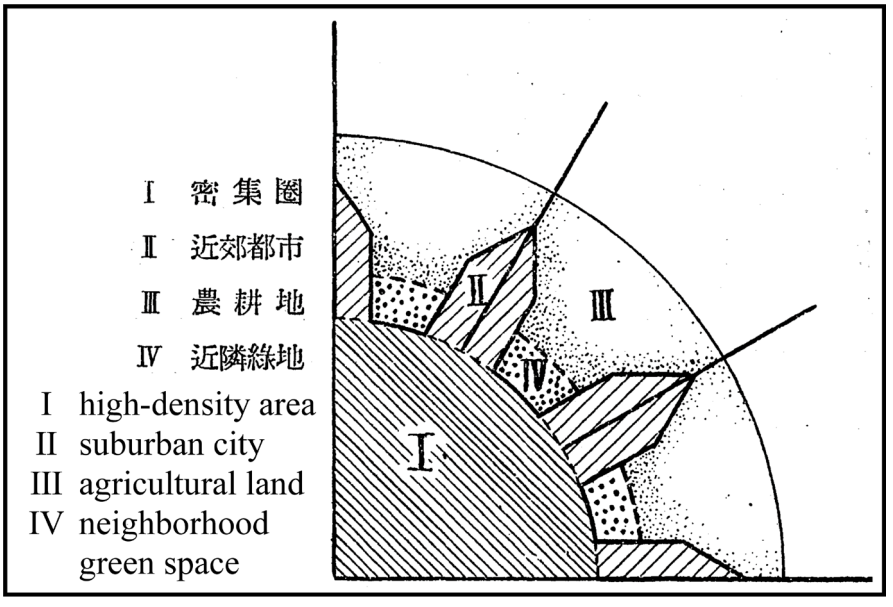

Fig. 2. Appropriate Preservation of Wedge-Shaped Green Spaces

As a result, he proposed that urban development proceed along radial streets in a starfish shape (Fig. 1) and that 'suitable expansion' can be achieved by accepting the drive to expand while appropriately preserving wedge-shaped green spaces in between developments (Fig. 2).

This plan accounted for the claims of both large and small city theories and allowed him to 'establish a regional plan that acknowledges big cities without being biased towards the fantastical denialism or fatalistic praise of big cities'.

(2) SPECULATIONS ON WEDGE-SHAPED GREEN SPACES

From books on urban planning and articles on wedge-shaped green belts from the time, it was discovered that most experts were interested in developing cities and believed that such development was necessary to reduce the population concentration and density and control the shape of urban areas. Most of the experts hoped for 'suitable expansion' because they had witnessed the practical application of unplanned development. Furthermore, some experts who either supported or were indifferent to cities growing larger also saw significance in the proximity of cities and nature.

On the other hand, opponents of urbanisation did not have clear-cut reasons for the harmful effects of large areas per se and some saw significance in the natural abundance of green spaces that would control cities.

Wedge-shaped green belts such as the ones proposed by Nakazawa would have likely satisfied both the large city and small city theorists. However, although Nakazawa provides a logical

explanation for these spaces, the German wedge-shaped green spaces he cites were featured in the magazine Parks and Open Spaces in 1939; thus, it is not clear whether the influence came from Nakazawa's arguments or directly from information on the German wedge-shaped green spaces.

In any case, it is believed that wedge-shaped green spaces emerged to satisfy the demands of the experts of the day, which were to 'develop cities', 'prevent continuous urban areas', and 'bring cities and nature closer together'.

NOTES ON CONTRIBUTORS

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IMAGE SOURCES

Fig. 1 Nakazawa, Seiichiro. One Suggestion for Suburban Planning of the Great City. *Journal of Architecture and Building Science,* No.629, 1017-1024, 1937.
Fig. 2 *Ibid.*

5 JULY: SESSION 1.3

PLANNING WITH THE PAST.

Chair: Richard Hu

From Soviet Pattern to Chinese Practice

A Historical and Empirical Review of Wuhan 1954 Master Plan with GIS and Spatial Syntax

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Abstract

Because of post-war reconstruction, urban planning became the most important affair since the P.R.China founded. During the "First Five-Year Plan", "The Urban Planning of Eight Key New Industrial Cities" laying the foundation of China's modern urban planning, showed the process from drawing on Soviet planning experience to the theory of Chinese urban planning. Wuhan was one of them. The 1954 Master Plan as the first planning clarified the characteristics of a typical long-term plan, with the Soviet pattern's far-reaching impact on it. This study takes the Wuhan 1954 Master Plan as the main research object, using the existing research results and historical documents introduced a series of activities around it, considering the relationship between the Soviet pattern and the Wuhan planning in the early days. The planning data in different periods are transformed into the database to analyze the space in GIS, shows the actual impact of the Soviet pattern under the implementation of the plan for 65 years, and examine its significance and value. The results can reflect the following influence of Wuhan City Master Plan in 1954. This study uses GIS to analyze historical data, and establish a verification relationship between planning and reality.

Keywords

Wuhan modern urban planning history, master plan, Soviet planning pattern, GIS, spatial syntax

How to cite

Zou, Han; Marat-Fan, Jingke; Hu, Mingxing; Xiong, Yue; "From Soviet Pattern to Chinese Practice: A Historical and Empirical Review of Wuhan 1954 Master Plan with GIS and Spatial Syntax". In Carola Hein (ed.), *International Planning History Society Proceedings*, 19th IPHS Conference, City-Space-Transformation, TU Delft, 5 - 6 July, 2022, TU Delft Open, 2022.

DOI: 10.7480/iphs.2022.1.6471

INTRODUCTION

At the beginning of the founding of the PRC in 1949, China faced the problem of rapid urban repair after the war. At the same time, due to the ideology of a socialist country, the urban planning system has changed from the Soviet model since the 1950s. At that time, the Chinese urban planning system began to reflect the background of the planned economy, and its guiding ideology, planning theory, planning method, and planning system all showed a completely different look from western modern urban planning. All this is in preparation for socialist urbanization. In the 1880s, some Western scholars began to study socialist urban planning in this period, such as Town and Revolution (1970) by Kopp[1], The Socialist City (1979) edited by French and Hamilton[2] and The Soviet City by Bater (1980)[3].

Victor (1996)has take the Chinese capital Beijing as an example to study the influence of Soviet planning on Beijing from 1949 to 1991. He believed that Soviet planning had huge impact on China[4].

Robert et al. (2005)found that the development axes of the Stalin era, which tended to radiate outwards from the city center, exhibit urban qualities that were lacking in later phases of urban development. The extensive growth of the Moscow region altered the nature of settlements located directly on the city boundary, as these became the sites of large housing developments and industrial zones.[5]

Christina (2018)has indicated that standardization is characteristic of Soviet planning. Standardization has the advantages of low cost, strong dissemination, and easy replication. So the Soviet model was an unique product of the times.[6]

For Chinese cities, relevant research results have only been valued in recent years. Some Chinese scholars, such as Li (2008)has reviewed the modernism's influence on the Soviet Union's architecture and urban planning from 1920s to 1950s, their pursuit of ideal socialist city forms, and the reality of socialist urban planning development. And she tried to reveal the relationship between the ideology and urban planning, the distance between the ideal and the reality, as well as reasons why the modernists failed in the Soviet Union.[7]

LI has empathically analyzed the introducing process and main contents of socialist cities' planning and construction thought of the Soviet Union in the 1930s.and preliminarily studied the historical origin and context of the Soviet planning pattern. It was proposed that the theory of Soviet socialist city construction was based on the technical development of urban planning in the world, especially in Europe, and is the product combining the theory of scientific socialism with the concrete practice of Soviet urban construction.[8]

Xu and LI. have proved that the international urban planning theory in the 20th century has remarkable characteristics of cross-cultural communication. After 1949, the "Soviet Model" of urban planning came to China through top-down promotion.[9]

In this paper, we have reviewed the urban master plan in Wuhan in 1950s by lots of Historical Documents. In addition, we tried to use the space syntax to quantitative analysis the development in Wuhan. Space syntax was a good tool to response to the dynamic changes in a city.

The index of integration could be used to study urban structures and human behaviors.[10] This paper would use the spatial syntax method in the planning evaluation part.

1. OVERVIEW OF WUHAN MASTER PLAN COMPILATION BACKGROUND

During 1950s, China need to develop industry rapidly. Many cities have developed industry as their primary goal and Wuhan was one of them[11]. the Wuhan government began to compile the urban master plan based on the city status and followed the '156 construction Projects'[12]. The plan was gradually improved from 1953 to 1955[13] and had a great impact on the next 20 years[14].

2. PRELUDE--THE DRAFT OF WUHAN MASTER PLAN

The Wuhan Urban Master Planning was drafted on the December of 1953 (Figure 1)with the guidance of Soviet experts Dmitry Dmitrievich Barakin[15], The plan proposed the urban development axis and functional zoning, and introduced the urban road network and urban axis. It provided guidance for the city's subsequent construction work. Wuhan Urban Master Planning 1954 was developed on the basis of the Wuhan Urban Master Planning 1954. The main axis of the three towns, "Zhongshan Park Front Square-Jijiazui-Nananzui-Hongshan Square", the Wuchang new urban square and the Qingshan area were built with the influence of Barakin.

3. THE MAIN CONTENT OF WUHAN MASTER PLAN 1954

The overall urban planning and layout of Wuhan in 1954 (Figure 2) was based on the joint selection of factories in 1952 and the draft urban planning of Wuhan in 1953. The urban planning and suburban planning with heavy industry as the main part were determined. Through the delineation of the regional centers, from the perspective of the integration of the three towns, the main axis of the three towns was determined. In addition, port terminals and warehouses were arranged along the Yangtze River in combination with water transport conditions. At the same time, the master plan of Wuhan always attached the importance to the urban geographical elements, focusing on the existing embankment and old cities, and layout the urban space and expanded the urban scale.

In terms of urban center, the master plan of Wuhan City in 1954 determined several center areas corresponding to the main axis from the Schematic plan of Wuhan City Center Planning in 1954 (Figure 3). Most of them used geometric composition to planed the road network and land, and flexibly decorated the axis with square, main road, residential area along the street

facade and other elements, presenting a symmetrical, neat and spectacular urban landscape. Each axis was connected with each other, or was the extension of urban trunk road, or was the branch of the main axis of three towns. It was not difficult to see from this that the general layout of the plan always kept the scientific arrangement of the overall spatial sequence of the city, which made the connection between regions close without losing its artistic effect.

In terms of land use function organization, the master plan of Wuhan City in 1954 was roughly divided into several areas on the basis of urban, suburban and outer suburb. The main function types of the areas were different, including industrial area, warehouse area, staff residential area, culture and education area, etc. However, the functions among regions could be organized scientifically to form a good complementary relationship. For example, the staff residential area, namely the warehouse area, could provide more favorable traffic and living conditions for the industrial area, while the warehouse area could facilitate the communication between the staff residential areas on both sides of the river. In addition, according to the development characteristics of each specific planning area, different quotas were used to reserve the necessary land.

Fig. 1. Wuhan City Planning Draft in 1953. The map mainly determines the city center location, land use zoning, and city outline that are needed in Wuhan urban planning.

In terms of functional organization of land use, the Wuhan Urban Construction Committee mainly divided the planning area into detail, namely the newly-built industrial zone of Dawangmiao, the newly-built industrial zone of Boyushan, the newly-built industrial zone of Qingshan, the reserved industrial zone of Guishan North, the reserved industrial zone of Guanshan, the reserved industrial zone of Changfeng Nanxun , the reserved industrial zone of Shilipu, Xujiapeng Workers 'Residential Area, Honggang City Workers' Residential Area, Wuchang New Urban District, Hongshan Central District Luojiashan Cultural and Educational Area, Dijiao Warehouse Area, Qingshan Warehouse Area, Baishazhou warehouse area and other specific planning areas. At the same time, according to the actual geographical environment of Wuhan, the wetland ecosystem along the river has been classified into scenic areas and protected areas. In addition, according to the development characteristics of each specific planning area, different quotas have been used to retain the necessary land.

The planning focus of newly built residential neighborhoods is mainly concentrated in the new urban area of Wuchang, that is, the specific planned areas such as the newly built employee residential area of Xujiapeng and the employee residential area of Honggang City. The layout of the employee residential area was closely related to the neighboring industrial enterprises. For example, the Red Steel City employee residential area located in Qingshan Industrial Zone was adjacent to Wuhan Iron and Steel Plant (Figure 4).

Fig. 2. Schematic plan of Wuhan City Center Planning in 1954. The figure mainly reflects the urban planning plan of Wuhan City Master Plan in 1954.

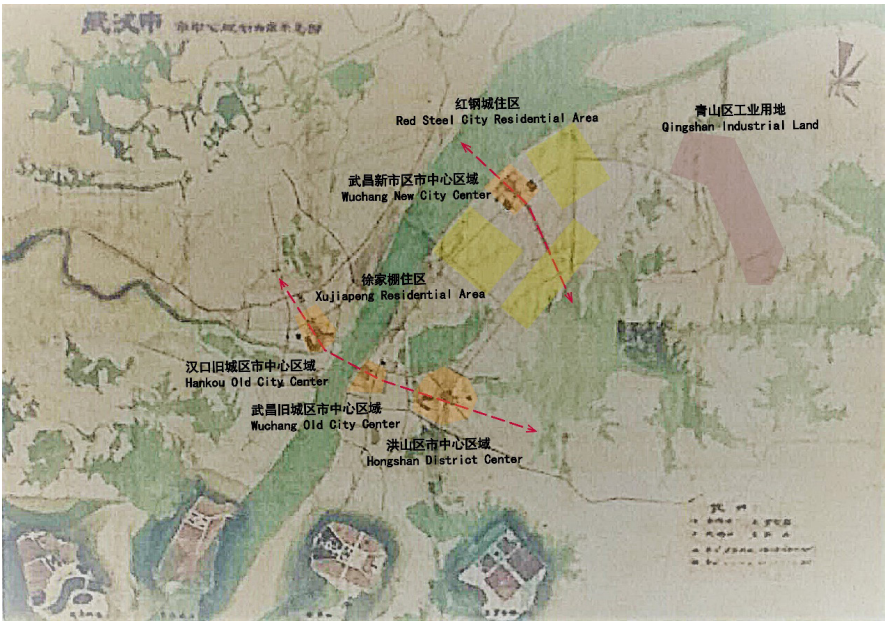

Fig. 3. Historical photos of local areas of Wuhan. The map shows several places in Wuhan that have been focused on since the completion of the Wuhan City Master Plan in 1954.

The planning of new residential neighborhoods was not only to address the living needs of workers in industrial enterprises, but was also part of the urban landscape. Therefore, new residential neighborhoods often adopt the practice of merging neighborhoods to keep the neighborhood units in a proper design aesthetic in the overall urban planning floor plan. For example, the staff residential area of Red Steel City was integrated with the neighborhood planning, so that it had a planar scale similar to that of the central square of Wuchang New City. The new residential neighborhood planning and overall planning had a strict sense of sequence and unity in composition. And this way of integrating neighborhoods was also an economic practice in urban planning activities. It was to merge single, too small neighborhoods in urban planning, so that the surrounding street construction would not be complicated and chaotic, and also facilitate city management. The integrated neighborhood was also more conducive to the development of public utility projects to develop the green space and public facilities required by residential neighborhoods.[16]

4. ANALYSIS OF THE IMPLEMENTATION EFFECT

The concept of spatial syntax was proposed by Hiller. He believes that the urban spatial road grid is highly related to social attributes, and the social functions in urban space can be explained and optimized through the analysis of the spatial road grid. A rational cognitive approach was also put forward to understand social functions. The integration degree

of important parameters of space syntax reflects the closeness of the relationship between space and space, and places with high integration can introduce more people flow and social functions.[17] Due to the advantages of spatial syntax in quantitative research, it is widely used in the study of urban morphological development.[18] Zhu and others once converted the Suzhou city road network model into an axis map and performed spatial syntax calculations, and superimposed the analysis of the status quo elements of the city. They found that the degree of integration was positively related to the core degree of the city, and social functions were often densely distributed on highly integrated roads. He believed that in cities, highly integrated streets were often urban trunk roads, and highly integrated roads form urban centers.[19] In order to increase the use of spatial syntax, B.Jiang and others developed an AXwoman plug-in based on a GIS system. This plug-in can perform spatial syntax calculations in GIS, while taking advantage of the GIS system, and linking space information such as architectural uses and plots in cities to expand urban research.[20] Due to the reliability of the plug-in and the expansibility of GIS, more and more scholars calculate spatial syntax in GIS.[21]

In this study, we converted the real-life map of Wuhan in 1949, the master plan of Wuhan in 1954 (Figure 5), the schematic diagram of Wuhan in 1959, the satellite map of Wuhan in 1968, and the current status of Wuhan in 1978 into machine calculation city segment model (Figure 6). We use AXwoman in GIS to calculate the line segment model so that more discoveries can be made in the future. The calculation results are visualized in GIS using the natural discontinuous segmentation method (Jenks). This classification method can better distinguish the street integration degree, which is convenient for our analysis.[22]

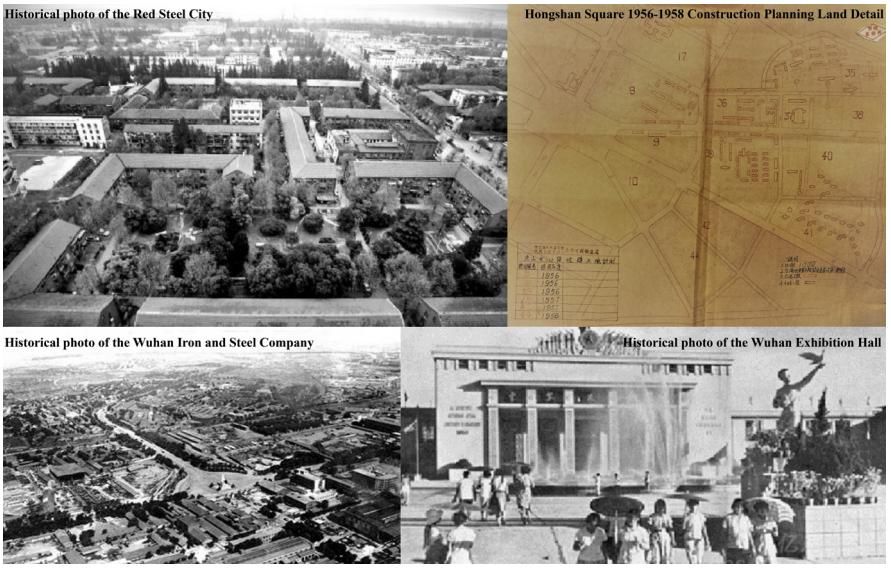

Fig. 4. Historical photos of local areas of Wuhan. The map shows several places in Wuhan that have been focused on since the completion of the Wuhan City Master Plan in 1954.

Wuhan was divided into three administrative towns in 1949, and there were no bridges between them. But the space syntax must not be used to calculate isolate lines. So we add line segments at the corresponding positions to represent the Yangtze River Bridge and Jianghan Bridge to ensure that the calculation can be completed. After analysis, it was found that the integration degree of Hankou in Wuhan was relatively high in 1949, and social activities and interpersonal communication mainly occurred here.

The 1954 Wuhan Master Plan is an important object of this study. It was compiled by Wuhan Urban Construction Committee. Compared with the current situation in 1949, high-integration streets were mainly distributed in Wuchang, the road network density and quantity in Wuchang were newly added to the plan. It was planned to transfer the city center to Wuchang, and at the same time Wuchang would develop along the river to the north and inland to southeast. In the picture, the center radial road structure appears at the location of Hongshan Square.

1959 Wuhan City Construction Planning Schematic was a short-term construction plan issued after the overall urban planning in 1954. In this version of the plan, high-integration neighborhoods were mainly located along the Yangtze River in Hankou and Wuchang. This version of the plan continues the idea of the central location and development direction of the city in the previous version of the plan. The central radial road structure in the current location of Hongshan Square in this version of the plan has been retained.

The satellite image was taken by USGS in 1968. After ten years of construction, compared with the status quo in 1949, the Hankou Chinese Concession is still the center of urban social activities, but the social activities in Wuchang have gradually increased. The figure reflects the gradual implementation of the 1959 plan.

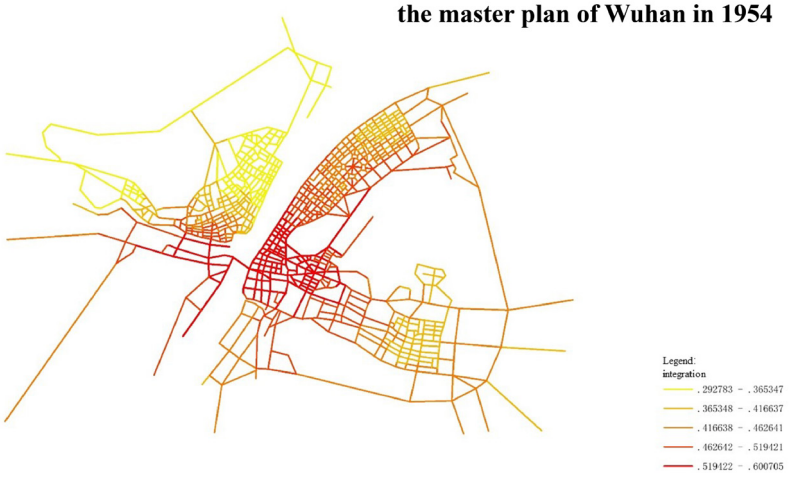

Fig. 5. Urban line model of Wuhan City Master Plan in 1954. This map is a model of the city line segment of the Wuhan City Master Plan in 1954. It can be used to observe the issues such as the relevance of the road system in the 1954 plan.

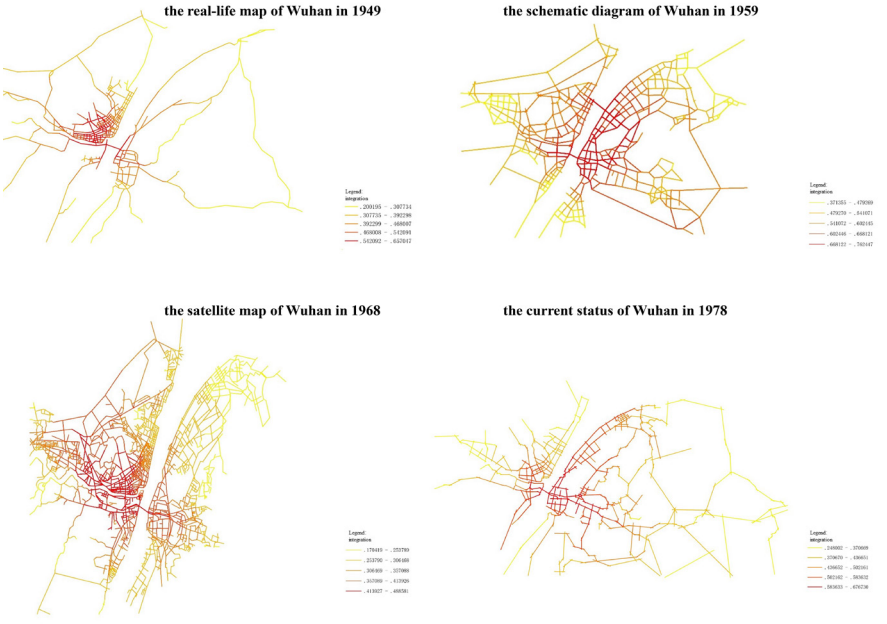

Fig. 6. Urban line model of Wuhan's planning implementation status from 1949 to 1978. This figure is mainly a line segment model of the urban floor plan that is closely related to the Wuhan City Master Plan in 1954.

After the establishment of Wuhan Urban Planning Administration in 1978, Wuhan City Status Map was completed and guided by the Municipal Construction Commission. Compared with the status quo in 1968, the integration degree of Wuchang Road was higher than that of Hankou, and the city center moved to Wuchang. In the Chinese planning system, the overall planning period is 20 years, and the status quo 20 years later can reflect the implementation of the 1968 plan. Compared with the 1954 plan, the high-concentration streets were mainly located in Wuchang. Social activities and exchanges mainly occurred along the Yangtze River in Wuchang and southeast of Wuchang. The central radiation road planned for Hongshan Square had also been completed. It can be seen that these 20 years of urban construction were consistent with the planning ideas of 1954.

5. ANALYSIS OF PLANNING PARADIGM CHARACTERISTIC

5.1 PARADIGM OF CROSS-BORDER COMMUNICATION

Because of the time background and political reasons, in 1954 Wuhan's urban master plan mostly adopted the Soviet planning model. This is important evidence of the influence of Soviet planning on Chinese planning. China had good relations with the Soviet Union at that time, and at the same time Chinese cities needed a lot of construction, so the Soviet Union

technically assisted China. Such assistance includes the invitation of Soviet architects and planners such as Mu Xin, Kravtyuk, Barakin, Sharyshev, etc. to work in China,[23] and the introduction of Soviet professional books, such as the Standard Design Law for Housing Complete Sets by Barakin In China, Soviet experts were invited to give lectures in the country, such as Solonovich, Misha Mahov, etc, and used this class to teach planning skills.[24] These aids are an important basis for the influence of Soviet planning on modern Chinese planning.[25] Under the influence of Soviet planning on China's urban construction, China has tried to use the technical specifications of Soviet urban planning as a template as a rule in urban construction.

5.2 PARADIGM ABSORPTION AND FORMATION

In the historical activities of Wuhan City Master Plan in 1954, the direct absorption of the "Soviet Model" can be traced back to the results of the joint plant selection work. For example, the Wuhan Iron and Steel Plant was located in Qingshan Industrial Park, and its preliminary design was completed by the Soviet Design Institute, and then the Chinese personnel carried out the overall design of the off-site project based on the preliminary design graphic results. Such a coordinated relationship made it necessary to coordinate the construction of the steel mill in the preparation of Wuhan's overall urban planning in 1954. In terms of the pictures and text results of Wuhan City Master Plan in 1954, the nodes that absorbed the Soviet model for planning and design were more abundant.

However, in the process of assimilating Soviet planning ideas into local planning practice, there is also a transformation relationship in the preparation work of Wuhan's overall urban planning, so that practice is not tied to theoretical dogma. For example, considering economic conditions such as the supply of local materials, professionals in China have adjusted the unit cost quotas for workers' residential areas in off-site projects in the Qingshan Industrial Zone, reducing unit cost to 50 yuan per square meter, compared with the average cost of building a city house in 1953 was 93.4 yuan per square meter, down by nearly 46%.

In the Wuhan Urban Master Plan, the establishment of an institutionalized process for this paradigm is a long process that spans the entire planning period. Just as the research results obtained from the implementation effect analysis mentioned above, in the 20 years including the Vision Period, Wuhan's urban master plan was gradually deepened and implemented, and finally formed a three-town integrated urban pattern. The scale of the city was expanded to the state of the planning outline under the jurisdiction of the suburban planning part in 1954, which enabled the technical design planning made in 1954 to be transformed into a planning system and affected the development of Wuhan today continuously.

5.3 EVALUATION ON THE HISTORICAL STATUS AND RATIONALITY OF WUHAN URBAN PLANNING PARADIGM

According to the above, we are able to clearly define the technical results of planning in 1954. Before and after the development of the second edition of the master plan in 1978, the Soviet planning paradigm had a profound impact on the construction of modern cities in Wuhan.

However, through the historical perspective of civilization, which allows us to analyze and discuss in the overall perspective of the history of modern Chinese urban planning, we can find that Wuhan's overall urban planning in 1954 has a typical dual paradigm characteristic, that is, the process of forming a general paradigm and its special speed of paradigm formation.

Compared with the current implementation results of key cities such as Lanzhou, it can be discerned that during the period of self-regulation, the construction of key cities in various places were affected by the Soviet planning paradigm to varying degrees. For example, the eight major cities like Wuhan, Lanzhou, Datong, and Xi'an all have the characteristics of Soviet urban planning and design. That is, the use of strict and symmetrical design forms to achieve urban landscape art, there were a large number of absorption and conversion of Soviet urban planning quotas, too.

Among them, Xi'an's urban master plan contains 'Suggestions from Soviet urban planning experts Barakin: China's urban planning quota can adopt the Soviet 1947 standard within five years and the Soviet 1952 minimum standard within 20 years'. Therefore, the research on the history of Wuhan urban master planning can provide an important basis for the study of the modern urban planning paradigm in China, and can also serve as a parallel object to promote the current scholars' research on the history of urban planning in different places in the same period. Based on the universal characteristics of paradigm formation, Wuhan's urban planning paradigm from development to establishment also had its particularity, especially with its own paradigm's perfection speed and deepening degree. Compared with the current urban planning process of cities in all regions, the implementation effect of Wuhan's urban planning had become deeper and faster. Among them, of course, there are the influence of Wuhan as the provincial capital's city level and the development positioning of key industrial cities, and it is also closely related to its urban construction history. For example, in the modern urban planning process, Wuhan had undergone the period of independent construction of the three towns and the period of integration of the three towns. Although the western advanced planning paradigm was absorbed and integrated to a certain extent during the same period, its implementation effect was not significant, which made the status quo of the city still followed the previous form until 1949. The three old urban areas were dominated by fishbone-type public transportation systems, and this status of the city had greatly facilitated the implementation of the technical results of the urban master plan in 1954. For another example, by 1949, the road system from Xujiapeng to Qingshan in Wuhan had certain accessibility, and it had experienced many embankments and filling projects along the banks of the river had been able to provide assistance for the redevelopment of the city scale. It established a certain status quo foundation for the overall industrial layout of Wuhan City.

6. CONCLUSION

The formulation and implementation of the Wuhan Urban Master Plan in 1954 continued the development thought of the integration of the three towns in modern times and deepened the implementation of the construction of the main urban area of the three towns' cohesion. Its

visionary layout of the urban spatial pattern provides great convenience for today's Wuhan to expand the city scale. The Ministry's planning results have gradually transformed Wuhan's urban nature from a consumer city to a newly industrialized city, which in turn provided a strong material foundation for Wuhan's urban development and comprehensive functions, and laid the foundation for Wuhan's industrial development. So that Wuhan can not only promote regional integrated development through the political positioning of the provincial capital, but can also make good use of its industrial advantage of heavy industry to contribute to regional economic development and resource integration continuously. However, it was precisely because of the extreme development of industry that there were some hidden dangers in its industrial structure, and the urban renewal problems faced by the old industrial zone of Wuhan today began exactly from this.

Similarly, as a typical overall planning document compiled and drawn during the self-discipline period in China, this research achievement was not only for enriching the research perspective of urban specialized history, and it is more helpful for us to explore the laws of the modern urban planning paradigm in China. It provides a very typical case object for confirming the transnational relationship between China's urban planning ideas during the self-discipline period and the Soviet planning and construction mode.

ACKNOWLEDGEMENTS

This paper is supported by the MOE Liberal arts and Social Sciences Foundation of China (Research on Jingchu Human Settlement Environment Traditional Creation Thought and Its Contemporary Value) and Hubei University of Technology Green Industry Science and Technology Leading Program "Research on Digital Key Technologies and Applications of Urban Industrial Space Transformation Design in Wuhan" (XJKY2022002). The authors heartily thank the valuable opinions from Prof. Baihao LI, Prof. Hao LI and Prof. Xianglong TANG and Dr. Fei Dong. In addition, we thank master Xiao HU and Wen QIU etc. in Hubei University of Technology for organizing and analyzing the literatures.

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Fig. 4 Hubei Archives [S850-2-259②].
Fig. 5 Self-painting.
Fig. 6 Self-painting.

Reconstructing the Open space transformation in Nanjing with Maps
Content and Discontent

Zhen Xu, Lingyun Han
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Abstract

Open space normally undergoes random changes and contains less human activities, comparing with built environment in the urban context. Hitherto, open space has received insufficient attention in planning history research although they have been emphasized unprecedentedly in nowadays sustainable and people-centered planning. With historical maps and field survey, the authors depict the open space and urban morphology in Nanjing from 1900s to 2000s, as well as the consequent townscape change. Combing the archives and literatures, the author trace location, size, layout, and urban setting of open space as of streets, river and city walls with historical GIS. The authors introduce procedures, main findings of longitudinal analysis of this NSF of China funding project. Besides, considerations, opportunities and challenges from this project are summarized for colleagues' reference. The Historical-GIS framework for mapping open space will have potential in social and historical and ecological study, as well as in planning evaluations, which may offer valuable knowledge for planning history and sustainable practice.

Keywords

open space, maps, historical GIS, planning history, Nanjing

How to cite

Xu, Zhen; Han, Lingyun; "Reconstructing the Open space transformation in Nanjing with Maps: Content and Discontent". In Carola Hein (ed.), *International Planning History Society Proceedings*, 19th IPHS Conference, City-Space-Transformation, TU Delft, 5 - 6 July, 2022, TU Delft Open, 2022.

A Study on the Spatial Structure of Jinan in the Qing Dynasty

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Abstract

Taking Jinan as the research object, this paper attempts to construct the spatial structure of Jinan in the Qing dynasty through documentary research and historical map transfer. The study was conducted on the following three levels: macro, meso and micro. Specifically, in macro-level, the study attempted to construct the spatial structure by sorting out the natural environment and transport elements, Qing dynasty administrative divisions and urban functions within the city limits. In meso-level, the study focused on the interaction of mountain and river with urban siting and urban axes. In micro level, the study focused on the organisation of space within the city. The study found that the eight counties within the city limits of the Qing Dynasty were all centres of defence, political, economic, cultural, and educational functions, together forming a multi-centre network structure. Among the 8 counties, Licheng County was located between mountains and rivers, and used the natural elements to establish an effective defence system. The city formed five main axes with the mountains and rivers, creating a harmonious and close connection with the surrounding environment. Inside the city, the space was organised through lishe, forming a spatial structure with the north-south road as the skeleton. By establishing the spatial structure of the entire administrative region and its multiple layers, the study hopes to provide historical advice to current planning practice.

Keywords

urban planning history, Jinan, China, the Qing Dynasty, spatial structure.

How to cite

Mengfei, Tong; Baihao, Li; Zhao, Li; "A Study on the Spatial Structure of Jinan in the Qing Dynasty". In Carola Hein (ed.), *International Planning History Society Proceedings*, 19th IPHS Conference, City-Space-Transformation, TU Delft, 5 - 6 July, 2022, TU Delft Open, 2022.

DOI: 10.7480/iphs.2022.1.6480

INTRODUCTION

Jinan is the provincial capital of Shandong, China. As a mega-city, Jinan is an important city on the Yellow River Basin Economic Belt. There were human activities in Jinan 4000 years ago. People have built cities here for more than 2000 year. Planning studies on Jinan have accumulated a wealth of results in recent years. It covered the history of modern urban planning,[1] modern urban form,[2] spatial structure,[3,4] the relationship between ancient city and water system,[5] etc. However, the existing studies focused more on the central city and less on the entire administrative region; more on artificial space and less on natural environment; more on the modern times and less on the ancient times. According to the current urban and rural planning regulations, the main subject of planning is the 'city established according to the administrative system', and the spatial structure includes both artificial space and natural space such as topography and water patterns. Therefore, this paper intends to recognize the spatial structure of Jinan from the whole city. It is developed at three levels: macro, meso and micro.

SPATIAL STRUCTURE IN MACRO LEVEL

At the macro level, the study covered the entire area of Jinan, with an area of approximately 10244.45 km2. The macro-level study was divided into three steps. The first step was to sort out the natural environment and the distribution of land and water traffic within the study area. It provided the background and foundation for subsequent studies. The second step was to sort out the administrative divisions within the study area of the Qing dynasty based on the data in the China Historical Geographic Information System (CHGIS). The third step was to sort out the functions of the counties within the study area. Based on the analysis of the above three steps, the article refined the spatial structure at the macro level.

DISTRIBUTION OF NATURAL AND TRANSPORT ELEMENTS

The development of cities is closely linked to the physical and geographical environment, and cannot be separated from the favourable conditions provided by the environment, but is also subject to various constraints imposed by the natural environment. The natural environment is a non-negligible element of the cognitive spatial structure, and the two interact and influence each other. Jinan located in central Shandong Province. The general topography is characterised by high terrain and rolling hills in the south and low terrain and wide plains in the north (Figure 1). Before 1854, the ancient Jinshui River (later called the Daqing River), ran through the city from southwest to northeast. The tributaries on the south bank of the Jinshui River are well developed, and the water flowing from the mountainous area in the middle of the province is cascading into the Jinshui River through the floodplains in front of the hills. Tributaries at all levels are interwoven and dense as a network, facilitating the development of navigation and irrigation.

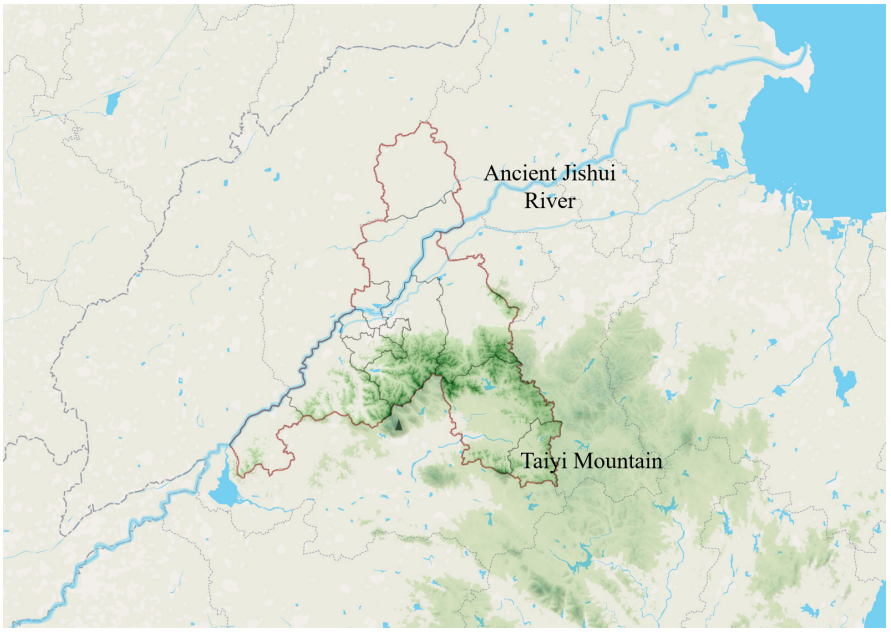

Fig. 1. Jinan's location and surrounding natural environment

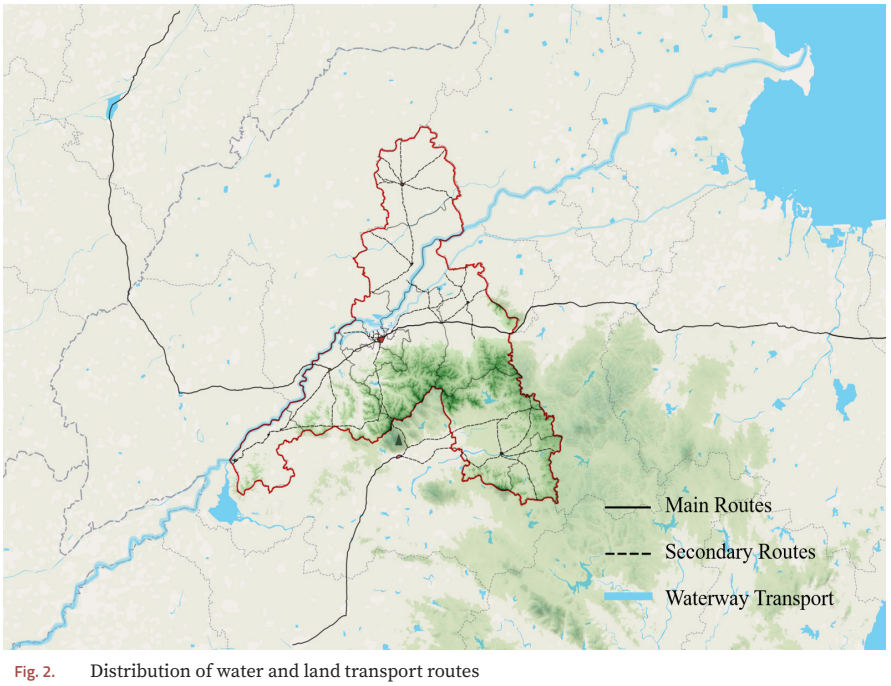

Fig. 2. Distribution of water and land transport routes

Water and land transport were important pillars in the emergence and development of the city. The first step in sorting out the distribution of water and land transport was to collate the relevant records in the literature. At the same time, Map of Chili and Shantung (Karte von Tschili und Schantung) by Prussian Royal Land Survey was aligned in GIS to extract the transport elements from it. A comprehensive distribution of water and land transport is obtained by cross-checking documentary records with historical maps. According to Hou Renzhi's research, there was a long-established east-west road along the northern foot of the Luzhong Mountains. This avenue sprouted at the end of primitive society and developed significantly in the Zhou Dynasty, and had been the artery of communication and economic connection between the Central Plains and Shandong Peninsula since ancient times.[6] In terms of regional transport, there was also the official horse road passing south from the capital to Jiangsu, Zhejiang and Fujian. In addition to the two main land transport routes mentioned above, there were a number of link roads within the city. They linked the various counties within the municipality and formed a dense network. In ancient times, freight was mainly carried by water, and the inland waterways were of great importance. The waterways of Jinan were also relatively well developed in historical times. The ancient Jishui River mentioned above was the main artery for east-west water transport in the Central Plains. In Song Dynasty, Liu Yu presided over the excavation of the Xiaoqing River, which guided the springs in Jinan to flow eastward into the sea, complementing the Daqing River as the main channel for transporting sea salt.

The development of land and water transport over the ages based on the natural geography has resulted in an intermodal transport system within the city, making the site a regional water and land transport hub.

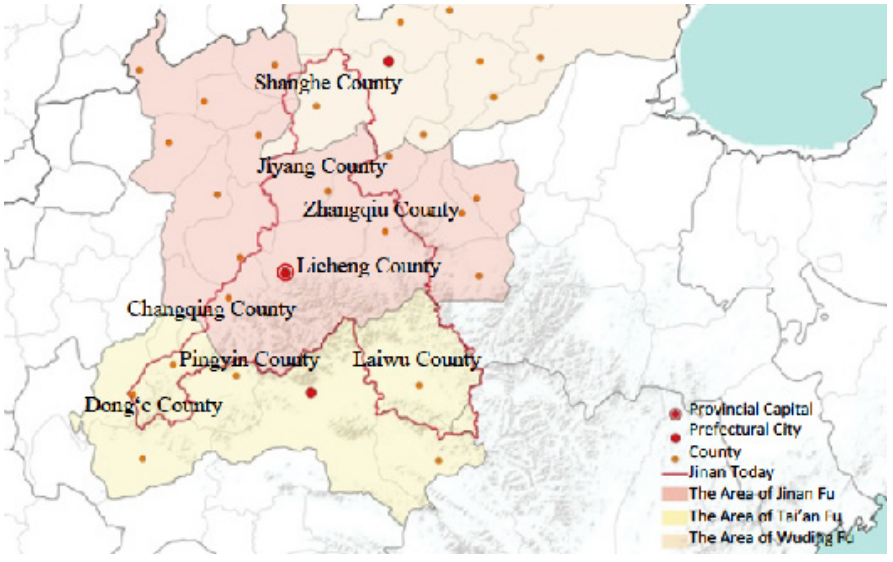

Fig. 3. Administrative divisions of Jinan in Qing Dynasty

ADMINISTRATIVE DIVISIONS OF JINAN IN QING DYNASTY

Although administrative zoning and urban planning are two completely different concepts, they are very closely related. During the Qing Dynasty, there was a three-tier administrative division of 'province – fu - county'. The administrative division that corresponds to today's municipalities is the 'fu'. The area of the Jinan Fu during the Qing dynasty was not identical to the area of Jinan today (Fig. 3). Parts of the area under the jurisdiction of Jinan Fu in Qing dynasty is no longer part of Jinan today (east and west side). At the same time, the northern, south-eastern, and south-western parts of the city of Jinan today also extend beyond the boundaries of the Jinan Fu in the Qing dynasty. The specific administrative divisions within the municipality are as follows.

During the Qing Dynasty, Shandong Province was divided into 12 administrative units at the Fu level. Jinan Fu was the provincial capital. The area of Jinan today was belonged to three prefectures in the Qing Dynasty, from north to south, namely Wuding Fu, Jinan Fu and Tai'an Fu. The capital, Jinan Fu, had 16 counties, and was governed by Licheng County. Of the 16 counties under the jurisdiction of Jinan Fu, three have their centres and county boundaries within the city limits, namely Licheng, Jiyang and Zhangqiu counties. In addition, the centre and most of the Changqing County are within the city limits. To the north lied the Wuding Fu, which had jurisdiction over 10 counties. The centre and most of the Shanghe County, which was under the jurisdiction of Wuding Fu, lies within the city limits. To the south was the Tai'an Fu, with six counties under its jurisdiction. Laiwu County, which was under the jurisdiction of Tai'an Fu, are within the city limits, and the centres and partial of Changqing County and Dong'a County are within the city limits. Thus, today's Jinan city district contains a total of 8 counties.

To sum up, the area of the city of Jinan today belonged to three administrative districts during the Qing Dynasty. The main body and centre have not changed significantly. The centres to the north, south-east and south-west of the study area were not within the regional boundaries.

FUNCTION OF THE COUNTIES DURING QING DYNASTY

The city maps of the eight counties in their respective county annals were collected, in the first step, to identify and extract important information. This was followed by further combing through the county annals for the form and size of the county, and compiling the above information into the table (Table 1).

The study shows that all eight counties were with walls, and that the shape of the city was square (3), rectangular (4) and circular (1). The walls generally had a gate in each of the four directions, with a few gateless in one direction due to the natural environment. A few other counties had two gates on one side of the wall, as in the case of Pingyin County. The walls were mostly three to four li[7] in circumference, with Zhangqiu County being slightly larger at 6 li, and Jinan Fu, the largest provincial city, at 12 li. Further combing the layout of the main buildings in the city, the counties were all laid out with a ruling house, Confucius' Temple,

and Town God Temple. Combining the above information on the form, scale, and functions of the cities, all eight cities within the municipal area were all centres that combined military defence, political, economic, cultural, and educational functions.

The macro-level spatial structure was constructed by sorting out the natural environment & transport elements, administrative divisions, and the functions of counties (figure 4). As mentioned above, all the counties within the study area were centres with a full range of political, military defence, cultural, educational, and economic functions. As the capital of Shandong Province and the prefecture of Jinan, Licheng County was located at the hub of land and water transportation, and the city was equipped with government offices at all levels, making it a first-class centre in the region. Wuding prefectural city and Tai'an prefectural city were the secondary centres in the region. Secondary centres were not within the scope of the study, but were immediately adjacent to it. At the same time, they were the centre of some next level nodes and had a direct influence on the object of study. The counties were the third-tier centres in the region. The different levels of centres together with the transport routes formed a complete network structure.

Name of the County	Shape	Form of the City Walls	Scale (Circumference)	Key Buildings
Licheng County	App. Square	4 gates. The east gate, south gate, west gate were equipped with urn city	12 li, 48 zhang (6160m)	Government(provincial, prefecture and county level), Confucius' Temple, Xianxue[8], Town God Temple
Jiyang County	App. Rectangular	3 gates (no gate on the south side). With urn.	4 Li (2000m)	County Government, Confucian Temple, Xianxue, Town God Temple
Zhangqiu County	Rectangular	4 gates. All with urns.	6 Li (3000m)	County Government, Confucian Temple, Town God Temple
Changqing County	Rectangular	4 gates. No urns.	4 li (2000m)	County Governmental, Confucian Temple, Xianxue, Town God Temple
Shanghe County	App. Circle	Double walls. Both had 4 gates. No urns.	Outer: 9 li Inner: 535 zhang (4500m, 1783m)	County Government, Confucian Temple, Town God Temple
Laiwu County	App. Square	3 gates (no gate on the north side). No urns.	3 li (1500m)	County Government, Xianxue, Town God Temple
Pingyin County	Square	5 gates (2 gates on the south side). No urns.	625 zhang (2083m)	County Governmental, Confucian Temple, Xianxue, Town God Temple
Dong'e County	App. Rectangular	5 gates (1 gate on the southeast side)	4 li, 59 zhang (2195m)	County Government, Confucian Temple, Xianxue, Town God Temple

Table 1. Shape, Form, Scale and Key Buildings of 8 Counties

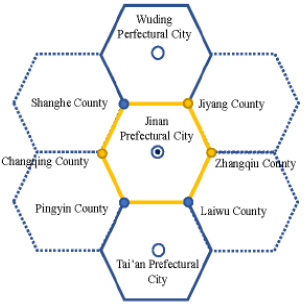

Fig. 2. Macro level spatial structure.

SPATIAL STRUCTURE IN MESO LEVEL

As the seat of the Jinan Fu's government, Licheng County was the centre of Jinan Fu during the Qing Dynasty. It is also the centre of today's Jinan, and the main physical carrier of the city's historic district. Therefore, the spatial structure at the meso level, with the county of Licheng as the object of study, focused on the structure established between the county and its surrounding natural environment. Relying on the principles of ancient city planning and construction, this section explored the spatial structure at the meso-level, starting with the selection of sites, orientations, and axes.

THE CITY LOCATED BETWEEN MOUNTAINS AND RIVERS, AND USING NATURE ENVIRONMENT TO BUILD EFFECTIVE DEFENCES

The location of the ruling city was based on the principle of 'between the mountains and water', which means that the city tends to choose a unique situation surrounded by mountains and water. The large-scale topography on which Licheng County sited conformed to this principle. The mountains range to the south were continuous, forming an encirclement with the peaks on the edge of the hilly mountains to the east and west. Together with the ancient Jishui River boundary to the north, this formed an ellipse that was long from east to west and short from north to south, with the county at the exact centre of the ellipse (Figure 5). In addition, the city also used natural elements to establish an effective defence. From a regional perspective, there were two routes from the Central Plains to the Jiaodong Peninsula, south and north, due to the intervening Taiyi Mountains. The geospatial situation of these two paths was very different. The southern route was along the Huanghuai Plain. The rivers along the route were dense and perpendicular to the direction of advance and had wide channels. As a result, there were more sections that form serious obstructions and the space was divided into multiple levels[9]. The northern route was along the northern foothills of the Taiyi Mountains. On this route, only the intersection between Taiyi mountains and Jishui River was easy to form effective defence. The city was in the middle of this channel, behind the river, and took advantage of the ancient Jishui River and the Taiyi Mountains to form an effective defence.

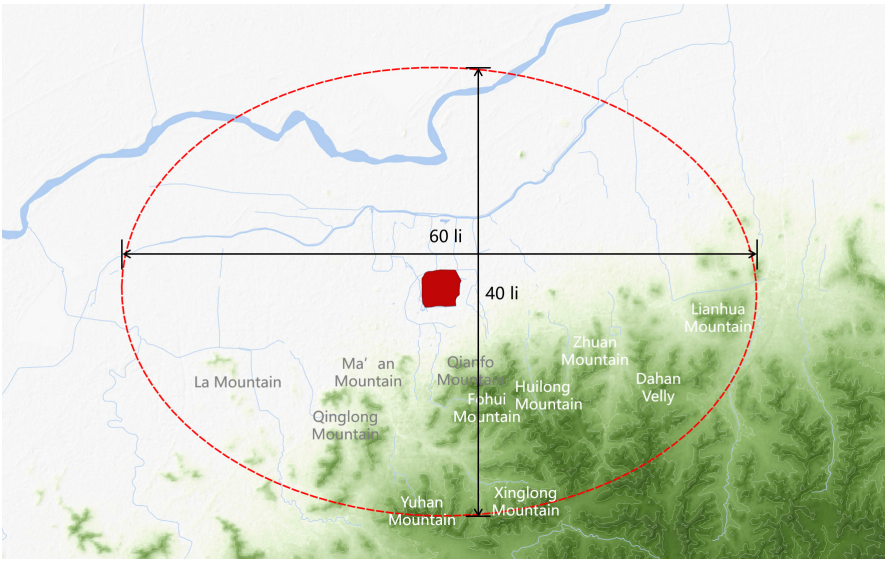

Fig. 3. The principle of urban cite selection.

TAKING THE SURROUNDING NATURAL ENVIRONMENT AS A REFERENCE FOR THE URBAN AXIS

In ancient times, cities paid special attention to the choice of orientation. The orientation of the city's main roads and gates, as well as the orientation of the main official buildings, were of great concern[10]. The basic principles and methods for establishing orientation were geographical orientation or mountain and river orientation. Geographical orientation means facing in the positive north-south direction, while mountain and river orientation are selectively aligned with the peaks of the mountains or the gates formed between the peaks. Through these two methods a strong connection was established with the surrounding natural environment. By sorting through the surrounding natural elements and aligning the historical maps in GIS to obtain the location of the gates and the direction of the main roads, it was found that the city established a basic structure with its environment through four main axes (Figure 6). The South Gate was positioned slightly to the east, facing south-west, with Qianfo Mountain and Ma'an Mountain as gateway, eventually pointing towards Yuhan Mountain. The eastern gate was positioned to the north, facing north-east, and was gated by two peaks on the edge of the hilly mountains. The west gate was positioned to the south, facing south-west, and pointing towards La Mountain. The North Gate was positioned to the east, pointing towards the turn of Jishui River, and took the two mountains of Que and Hua as its gateway.

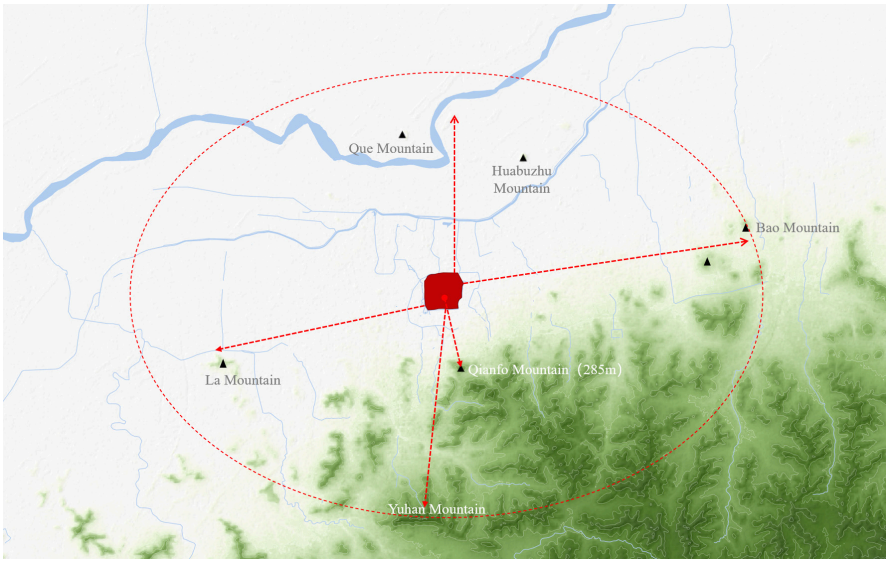

Fig. 4. The orientation of city's main road and gates & the orientation of the main building.

The orientation of the main buildings in the city followed the same principle of facing the mountains and rivers. In Ming Dynasty, the prince's residence was a complex of buildings second only to the emperor's palace. Local officials were required to visit the prince's residence on a regular basis, and the prince was required to officiate at the main rituals in the city, accompanied by local officials. In Ming Dynasty, there was a Prince's Residence in Jinan. With its enormous size and symbolic significance in terms of regulation, the residence occupied a central position in the city and was the ceremonial centre of the Jinan during the Ming dynasty. After the destruction of the residence in the Qing dynasty, its former location continued to be used as a governor's office, with its symbolic significance and ritual status having continuity. There was a clear central axis in the group, with the axis pointing slightly south-east in a non-positive direction, towards the Qianfo Mountain outside the city.

SPATIAL STRUCTURE IN MICRO LEVEL

The micro-level research object was the area within the city walls. In order to analyse and extract the spatial structure within the city, the records on the zoning and administration of the city in the county records were combed and translated into historical maps. According to the Licheng County Chronicles (Licheng Xianzhi), the area within Licheng County was organized through "lishe". The city was divided into 8 lishe, which were: Xin, Wen, Xiao, Fa, Di, Roumei, Zhong, and Heli, and each lishe contained 5-8 streets (Table 2). The streets were divided into 'Pai', under which specific households and populations were governed. As a result, the town was organised as a "community - street - household - population". This structure was from top to bottom and detailed to the individual.

Name of Lishe	Streets/Alley included	No. of Pai Under Jurisdiction	No. of Households	Population
Xin	Xianqian Street, Xixian Alley, Dongxian Alley, Cang Alley, Yinjia Alley, Ancha-Si Street, Pangong Alley, Zhenying Alley	85	866	3779
Wen	Dongmen-Ti Street, Dong-Qianggen Street, Miaojia Alley, Gaoqiang-Hou Street, Bei-Qianggen Street	48	498	1510
Xiao	Nanmen-Ti Street, Kuanhousuo Street, Lishanding Street, Madao Street, Shunmiao Street, Fuao Street, Dehua Alley, Caishen Alley	79	796	3697
Fa	Bangpeng Street, Wei Alley, Niuton Alley, Junmen Alley, Shualv Alley, Dong-Yuanmen Alley	78	799	3591
Di	Xi-Yuanmen Street, Tiandi-Tan Street, Gebo Alley, Furong Street, Buzheng-Si Street	76	778	3675
Roumei	Ximenli Street, Nanchenggen Street, Jiuqu Alley, Gaodusi Alley, Bianzi Alley	78	799	2985
Zhong	Houzaimen Street, Yudu Street, Fuxue Street, Yuanxi Street, Xi Gongxie, Quehua Street, Yuanhou Street, Bell Tower Temple Street	97	984	3922
Heli	Beimenli Street, Er Lang Temple Street, Huibo Temple Street, Chayuan Street, Huqianhu-Jing Alley, Shihui Alley	59	597	2787

Fig. 5. Details of organisation within the city.

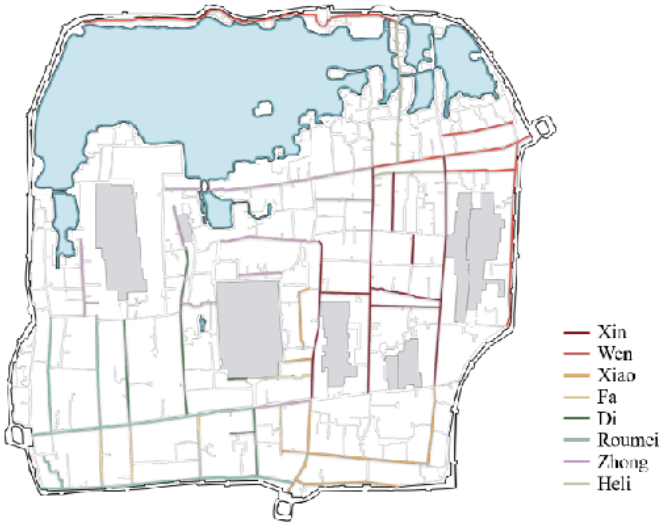

Fig. 6. Spacial structure of the internal Licheng city.

In order to extract the spatial structure of the city, the records of lishe were transferred to a historical map. As can be seen from the figure (figure 7), nearly a third of the northern side of the city was covered by Daming Lake. In addition, as a provincial capital, many government offices gathered in the city, occupying important positions in the city. Apart from the above elements, the city formed a spatial structure with roads, especially north-south roads, as the skeleton.

CONCLUSION

Based on the above analysis, the spatial structure at different scales within the administrative region of Jinan during the Qing dynasty was constructed. At the macro level, a polycentric network structure has developed within the city. There were 8 centres of different levels in the structure, including 1 first-level centre and 7 third-level centres. The superior centres of three third-level centres were not within the study region. It was therefore characteristic of macro-spatial structure that some of the nodes were not centripetal. At meso level, the prefectural city, Licheng County, located between mountains and rivers, and using nature environment to build effective defences. At the same time, the choice of the main urban axes followed the principle of 'mountain and river orientation', creating a harmonious and close connection with the surrounding environment. At the micro level, the city was organised through the lishe, which formed an organisational structure of 'lishe- streets - households - population'. And the city has formed a spatial structure with north-south streets as the main skeleton.

Urban development is a continuous process, with the past, present and future in the same chain of time. By summarising past planning practices, urban planning history and theory research provides historical advice and practical insights into current planning practices. As China's planning system is currently undergoing major changes, research on urban planning history should also actively expand the scope of the research objects and perspectives. While previous studies of planning history have focused on central urban areas, this paper aims to extend the focus to the entire administrative area, integrating urban and rural areas, man-made and natural, while exploring new research paradigms. It also seeks to understand the history of urban planning in a holistic and multi-layered manner, to find experience in history, and to provide a basis for the preservation of urban heritage.

DISCLOSURE STATEMENT

No potential conflict of interest was reported by the author.

NOTES ON CONTRIBUTOR(S)

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ENDNOTES

1. Li, "A Study on Jinan's," 50.
2. Wang, Morphological Development.
3. Zhao, "Structure Research," 90.
4. Meng, Transition and Development.
5. Yang, Water System and Spacial Form.
6. Hou, Theory and Practice.
7. The 'li' and the 'zhang' are ancient Chinese units of length, and 1 li equals 150 zhang. 1 li equals 500 metres.
8. 'Xianxue' was a kind of sclool run by county government.
9. Wang, "Nature of Yuchisi," 41.
10. Sun, "Traditional Planning and Methods," 99.

IMAGE SOURCES

All images drawn by author

From 'Imposition' to 'Borrowing'
Zhanjiang Modern Planning Practice and City Space Transformation

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Abstract

In China, western planning and urbanization ideas dominated the urban modernization discourse. Meanwhile, the two characteristics of international planning diffusion, namely 'Imposition' and 'Borrowing,' occurred. First, 'planning imposition,' that is, colonial planning was implanted, and foreign municipal progress filled the gap of the local place before 1945. Second, 'planning borrowing,' China takes the initiative to introduce the Soviet model in response to urbanization and modernization in the mid-20th century. Since the 1970s, the methodology of transnational comparative history has been applied to the study of planning history, including the driving forces, institutional mechanisms, and persistent effect of the interaction of planning communication between cities and regions. This paper sets Zhanjiang planning history as an example. It presents a prism to examine the influence of Western planning and Soviet planning on many Chinese cities in the 20th. This paper investigated the processes, agents, and impacts by drawing on 'international planning diffusion.'

Keywords

urban planning history, international planning diffusion, city space transformation, Soviet planning, kouang-tchéou-wan

How to cite

Liu, Yi; Li, Baihao; "From 'Imposition' to 'Borrowing': Zhanjiang Modern Planning Practice and City Space Transformation". In Carola Hein (ed.), *International Planning History Society Proceedings*, 19th IPHS Conference, City-Space-Transformation, TU Delft, 5 - 6 July, 2022, TU Delft Open, 2022.

DOI: 10.7480/iphs.2022.1.6444

INTRODUCTION

Over the centuries, urban space formed and the organizational structures, planning concepts and technical approaches spread among cities, countries and continents. Historically, different researchers explored the ideal form of the city and changed the planning technology. In the 20th century, relevant exchanges exploded following the occurrence of the discipline of modern urban planning and the development of academic language and tools. The early high-frequency planning activities and the flow of related knowledge in Western Europe and United States have attracted the attention of planning historians. Interest soon globally expanded; and during the complex diffusion of knowledge, specific planning activities expanded within colonial empires. Recent attention has been attracted on the interest of international flows of planning knowledge and practice within the former Soviet world, the West and the former colonial world.

In the category of planning discipline system, the one-way shift of classical theories and ideas from the empire is regarded as the research subject in traditional planning history studies. This study further focuses on the broader forces and specific practical contents of shaping urban space form. Zhanjiang will be studied under the broader theme of the international planning diffusion path and mechanism, and the implementation and localization of planning ideas. The research outcome has a potential academic value; however, very limited investigations are available on this planning. The transformation of Zhanjiang from rural space to two distinct urban spaces was driven by the idea of inevitable 'imposition' and uncritical 'borrowing'; and meanwhile the diffusion mechanism produced adaptability and adjustment with the reality. This paper attempts to explore the formation and development of the planning thought and practice movement and to examine the operation of specific individuals, institutions, group networks and governments in the diffusion mechanism, as well as the possible structural relationship with the world economic pattern.

THE CHARACTERISTICS AND PRINCIPLES OF 'INTERNATIONAL PLANNING DIFFUSION'

A process is often referred to as 'diffusion' by planning historians, which means the spread of planning knowledge within and between countries. How and why this process works is an important topic in the field of planning history. The term is used in the physical sciences to conceptualize the natural dispersal of. Planning historians borrowed it from the innovation-diffusion theories developed around the mid-20th century within the social sciences, particularly economics and anthropology/cultural geography. Some new findings indicated that the international urban planning movement in the early 20th century existed in the broader 'international urban', and some scholars regarded urban planning as part of the theory of world economic globalization and international relations.

Fig. 1. Area of the leased territory of Kouang-tchéou-wan 1899. The red dotted line in the figure was the scope of the leased territory, Chékam was the original town, Fort-Bayard was the planned military port, and Dongying was the planned commercial port (not yet built).

The UN Report on Global Settlement 2009 summarizes a typology of diffusion into two main channels, namely 'imposition' and 'borrowing' (UN-Habitat 2009). Imposition includes the use of authoritarian mechanisms not only to enable the transfer of planning models to foreign countries, but also to facilitate their institutionalization once in those countries. For its part, borrowing has to do with the 'voluntary' acquisition of planning models typically through synthesis, selection or uncritical reception[1].

Typically three major concerns have been evident in historical studies of diffusion[2]: (1) The mechanisms of diffusion—for example, key personalities, reformist or professional milieux, intergovernmental actions, etc. (2) The extent to which ideas and practices are changed in their diffusion. How they are applied in specific national settings and why differences are apparent. (3) The fundamental causation of diffusion. For example, how much does it mirror the larger economic, political or cultural contexts of international relations? Thus, a complete list of channels or conduits that have historically been employed to diffuse planning models must include

the following four (UN-Habitat 2009): Government, Educational and scientific research institutions, Professional associations and journals, and International development agencies[3].

HISTORICAL BACKGROUND

Zhanjiang, formerly known as Kouang-tchéou-wan, a prefecture-level city under the jurisdiction of Guangdong province, locates on the Lei Zhou Peninsula in the southernmost part of mainland China. According to the unearthed cultural relic research, Zhanjiang city has been inhabited as far back as the late Neolithic age (about 4,000 years ago between the Xia and the Shang dynasty). In November 1899, the Sino-French Treaty of Mutual Agreement on the Leased Territory of Kouang-tchéou-wan was signed, which included the land under the prefecture of Lei Zhou and Gao Zhou respectively, and some islands and the bay (Figure 1). In August 1945, China and France signed the convention on the Settlement of the Leased Territory of Kouang-tchéou-wan. It was set to a city established as one of the administrative divisions of the state, officially renamed Zhanjiang.

At the end of the 19th century, the leased territory of Kouang-tchéou-wan was the outcome of the western empire's competition for space power in China. At this time, with the emergence of the world economy and the development of capitalism in the 19th century, the city was not regarded as a public utility, but as a private business venture. Because of the need of export market required by the huge industrial capacity of the industrial revolution and the demand for raw materials and the expansion, the state machine joined the competition of the western society. The empire formed a global network of cities in the world economy through colonial activities. Kouang-tchéou-wan was the type of economic non-immigrant port city in this process. In the mid-19th century, the Indochina Federation was established by France on the Indo-china Peninsula in Southeast Asia. Half a century later, in an Attempt to gain further control of Southeast China, Indochina's governor, Paul Doumer, included the leased territory of kouang-tchéou-wan in the regional network of military ports. Geographically not bordering Indochina and not large enough to be a province, Kouang-tchéou-wan was brought under the jurisdiction of Tonkin and had its own subordinate civil administration unit.

After the founding of new China, A new path for national development was urgently needed. Faced with a domestic environment ravaged by wars for a hundred years since the opium war, and the diplomatic dilemma that most western countries refused to recognize the new socialist regime, a 'one-sided' national strategy was selected resolutely: 'take the Soviet Union as the teacher', learn from the successful experience of Soviet socialist construction, and rebuild the new China. The policy, 'construction of key cities in co-ordination with the national economic development programme' and 'establishment of an urban planning structure to strengthen city development', was promulgated at a conference on urban development held by the Central Finance and Economic Commission in September 1952. This policy had an important influence on China's urban planning during the First Five-Year Plan (1953-58).

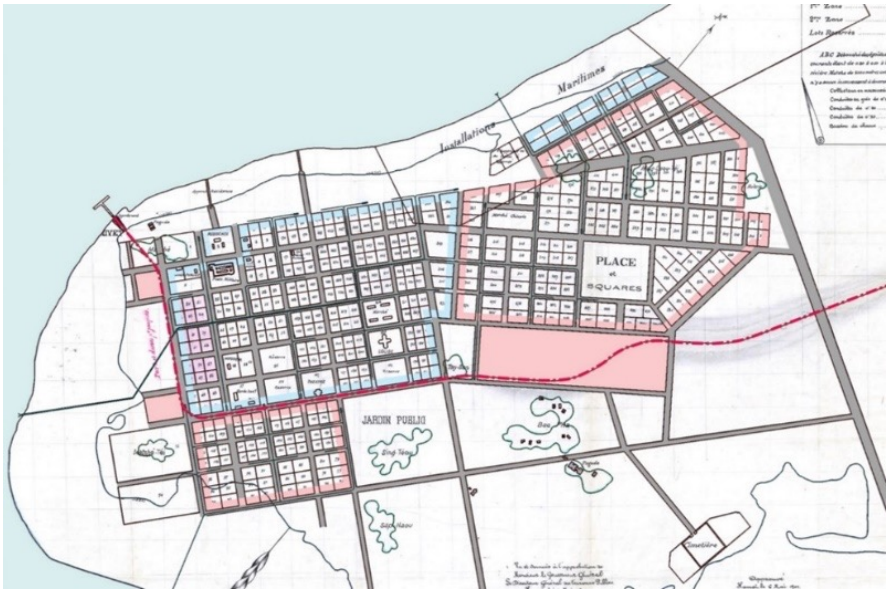

Fig. 2. Plan de Lotissement de Quang Tchéou 1901. In the figure, the land was divided into two areas, marked in red and blue respectively, and sold at two prices. The figure clearly showed the subdivision of the land, as well as the location of public space and administrative and military buildings.

THE PERIOD OF COLONIAL PLANNING (1898-1945)

In 1898, Indochina planned to lease Kouang-tchéou-wan, and in 1911, the governor of France issued a decree to reorganize the administration of Kouang-tchéou-wan. During this period there was a shift from military control to civilian administration: Beaumont, the major general of the French navy, organized the survey and military management of the leased territory, and military engineers gave the layout of the town (plan d'alignement and d'allotissement) up to the implementation of civil political autonomy. On May 6, 1899, Paul Doumer, the governor of Indochina, proposed a decision on the new Kouang-tchéou-wan naval base construction at a meeting of the Indochina Defense Committee, the status of which was equal to that of Saigon port, and to reduce Haiphong port to a second-class base. On January 27, 1901, Paul Doumer decided to appoint a committee to determine the city limits and boundaries of Fort-Bayard which was originally served as a military base, and planed for subdivision and alignment of land (plan d'alignement and d'allotissement) within this area. In the same year, the subdivision of land for the commercial port of Dong Ying which was on the other side of the Maxie River was completed (Figure 2). The master plan for Fort-Bayard finished in 1911 (Figure 3). Global geographic survey and urban cadastral project launched. In the whole region, military engineers carried out the planning and construction of civil infrastructure such as docks and highways. Road planning and administrative and military construction projects in newly-built cities came into operation, following the urban renovation and related facilities construction of local old cities.

In 1919, the Grand Paris Competition was held to find a good path for the post-war urban reconstruction in France. Taking this event as an opportunity, the plan for the Expansion, Renovation and Improvement of Towns (Projets D'extension D'aménagement et D'embellissement des Villes), also known as Loi Dite Cornudet, was promulgated, and this city planning law was extended to Indochina the following year. At this time, Albert Sarraut, governor of Indochina, proposed a comprehensive economic development plan for Indochina in 1921, and embarked on the reform of Indochina's public works sector (Travaux publics) and established the urban planning research group (Travaux D'urbanisme). Later, in the work records of the Indochina committee on Kouang-tchéou-wan, French planning terms such as D'extension D'aménagement et D'embellissement des Villes began to be recorded. Urban expansion and new area development in the old city came into effect under this background. After 1939, in the shadow of the Second World War, Kouang-tchéou-wan became a major International relief routes, with the rapidly increasing of population and the urbanisation. In 1945, the government of the republic of China recovered Kouang-tchéou-wan and then established Zhanjiang.

THE INTERNATIONAL PLANNING DIFFUSION IN 1898-1945

THE MAIN BODY AND KEY FIGURES IN PLANNING DIFFUSION.

The art and knowledge was used to annotation the French permanent ideology by the colonial authorities. The economic development of the colony was called value development (mise en valeur), in which the colonial government played a key role. Such as Paul Doumer, governor of Indochina, put his plans to invest heavily in infrastructure into practice, and Albert Sarraut took his efforts to promote his master plan for economic modernisation in the French colonial sphere. The metropolitan powers also promoted planning diffusion, for example, Gaston Doumergue, president of France decreed in 1928 to expand and improve Indochinese cities and towns.

In the early planning of Kouang-tchéou-wan, the governor, geographic surveyor, cadastral planner and civil engineer jointly determined the overall space form of the city, and urban planning proved to be an important tool to consolidate regional political power (Figure 4). Geographic surveyors rapidly and effectively developed the basis for large-scale plans, especially regional cadastral plans, including Land planning, cadastral planning, plot planning(plans fonciers, plans cadastraux, and plans parcellaires), after upgrading Indochina's military aerial photography. Cadastral planners developed cadastral plans as tools to impose a new economic and spatial order on the territory. Land surveyors were explorers, resource appraisers, urban planners, delineators of routeway, and shapers of urban and rural landscapes. In the 19th century, the civil engineers of Ponts-et-Chaussees became the backbone of public works management in France which primarily responsible for the design of bridges and roads in the early years, and expanded into territorial planning schemes in the 20th century.

Fig. 3. Figure 3 – Plan de Fort-Bayard 1911. The political center of Dong Ying port was moved here to form a comprehensive function of politics, military and commerce. In the end, only the construction of the political and military area was realized.

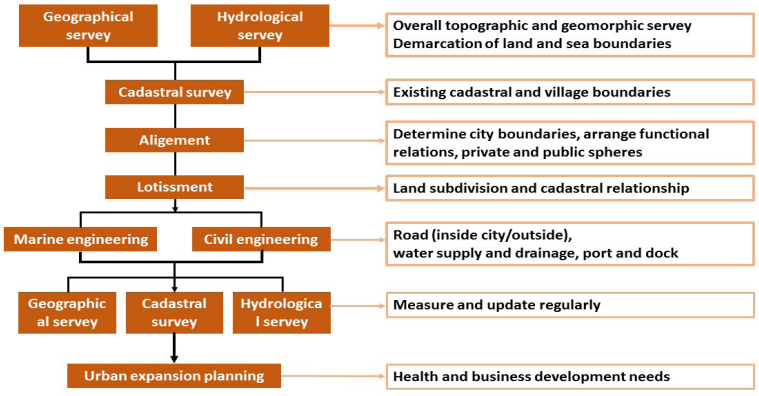

Fig. 4. The whole stage planning process diagram in colonial planning 1898-1945. Multiple technical departments were involved in the planning, and the nature of the planning was different in the early stage and the later stage under the influence of the international planning diffusion.

Early important colonial ports and towns were laid out by military engineers. French architects and city planners were responsible for the development and expansion of city planning in big cities. Under the technical guidance of engineers in the Public works institution of the colonial empire, local public works departments were responsible for carrying out these plans. Ernest Hebrard played an important role in the socialist garden city planning program and continued as chief planner for Thessalonika and Indochina.

ELEMENTS AND VEHICLES THAT FACILITATE THE PLANNING DIFFUSION.

Since the beginning of the 20th century, the relevant professional institutions and departments in Indochina have been gradually established and improved. In 1899, The Indochina Geography Office came into existence, and then Service Géographique de l'Indochine and Service du Cadastre et de la Topographie were set up. The Service des Bantiments Civils de l'Indochine was founded in the early years, and Service Central des Bâtiments Civils was established by decree in 1923, while the Organisation de l'inspection Générale et des Circonscriptions de Travaux Publics was reformed.

The curriculum and pedagogy of the teaching system in French and colony was one of the main channels for the dissemination of the western planning model. In the early days, following the French absolutist tradition, learning the technical, architectural design course at the École Polytechnique, French military engineers were part of a separate division. Later, engineers and architects mainly graduated from École des Ponts-et-Chaussees and France›s École des Beaux Arts. The colonized natives received higher education training and public education services. Following French or Eurocentric concepts of spatial order on urban design and layout skills, École des Travaux Publics carried out local public engineering teaching and training.

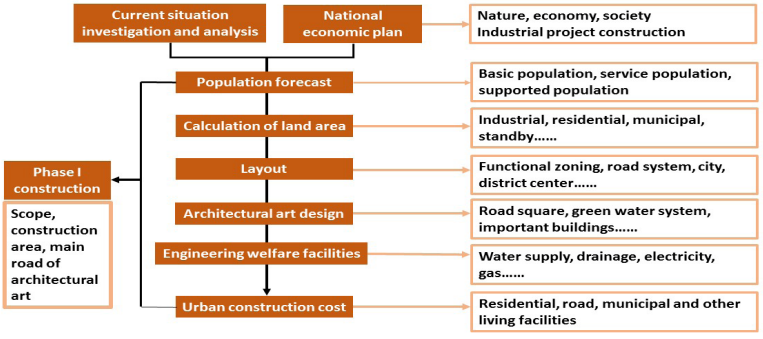

Fig. 5. Classical planning process in Soviet planning 1949-1975. The content fully reflect that the city was regarded as the factory and the planning was the embodiment of the national economic construction.

THE POLITICAL, ECONOMIC AND CULTURAL FACTORS IN COLONIAL URBAN SPACE.

The French believed that their notion of civilization was or ought to be universal. In Indochina, French architects and spatial designers proceeded to design plans requiring adherence to a strictly Eurocentric moral order for all urban residents. Modernizing built space was an avowed aim of the French colonial project in Indochina. As a concept of centrality in Western ethos, modernization was inextricably intertwined with industrialization and the sociological process of rationalization. For Kouang-tchéou-wan, in order to determine the financial content and the allocation of resources, the colonial regime's economic system was a salient feature in addition to the space design criteria. In China, with rural settlements as strongholds, the systematic expansion of agriculture into undeveloped areas was an important means to enter and control the expansion of the field. The continuous transition from village to city was interrupted by colonialism. In the equilibrium network of human settlement activities, the concept of market economy was introduced, and land was transformed into a commodity that could be bought and sold on the market. At the same time the knowledge of cadastral and land was introduced systematically.

"Plan D'alignement and D'allotissement" are the means of spatial planning in Kouang-tchéou-wan. In order to meet the needs of aesthetics, health, safety, transportation and other aspects, matching the location of buildings and public areas was the historical feature of "Plan D'alignement" in France. To determine the boundary between the public domain and adjacent property, and to modernize and broaden public roads for the government, the administrative authority promulgates relevant laws. As a spatial manifestation of the urban land expansion of Paris, 'Lotissement' seems to be from the mid-19th century, but had been used a lot since the middle ages. For the purpose of construction, the bare land was divided and multiple adjacent real estate units with ownership or use rights were formatted. Through the above planning means, the space presents an open grid dominated by colonization and with the basic characteristics of capitalist economy.

THE PERIOD OF SOVIET PLANNING (1949-1975)

In 1954, Zhanjiang planning team by China Central City Construction Bureau and Zhanjiang City Construction Committee of the People's Government of a joint venture, formulated the total 3 edition in urban planning. Four expert meetings were held with experts from the Soviet (eg. Д·Д·Balajin ДМИТРИЙ ДМИТРИЕВИЧ БАРАГИН), and the Central Ministry of Urban Construction to discuss the theory of port urban planning, the economic and practical nature of the plan, the relationship between urban space and the details of urban design. The specification and drawings of the Preliminary Urban Planning of Zhanjiang (1955-1975) were finally completed in 1955. During this period, City planners played an active role in site selection of factories, functional division of urban land use, and design of residential districts (Figure 5).

THE INTERNATIONAL PLANNING DIFFUSION IN 1949-1975

THE MAIN BODY AND KEY FIGURES IN PLANNING DIFFUSION.

During the period of "comprehensive study of the Soviet union", the translation of Soviet planning works and periodicals was introduced to a great extent. The professionals in China and Soviet Union maintained communication intimately. A great deal of Soviet experts came to China for technical assistance, meanwhile Chinese personnel were selected to visit or study in the Soviet Union. From 1952 to 1959, the ministry of construction (the ministry of urban construction) invited А·С·Muxin (А.С.МУХИН), Д·Д·Balajin (ДМИТРИЙ ДМИТРИЕВИЧ БАРАГИН) and Я·Т·Salisafu (ЯковТерентьевичКравчук) to guide the work as the leaders of the Soviet Union's urban planning advisory group. With the experience of chief engineer of Leningrad (now St. Petersburg) Urban Design Institute, as the second group of experts to China for construction, Balajin had extensively and deeply guided the planning of various regions and cities in China. His technical assistance covered almost every major urban planning in the period of "the first five years".

ELEMENTS AND VEHICLES THAT FACILITATE THE PLANNING DIFFUSION.

Under the background of "comprehensive study of the Soviet Union", the State Planning Agency System was established. The competent agency, multi-ministry co-management in the national planning and implementation was manifested in the urban planning and construction management and design institutions in various regions and cities and the planning and design institutions with highly concentrated technical strength. At the same time, according to the Soviet Union's planning system, the provisional measures for the compilation of urban planning was promulgated in 1956, which was the first urban planning guidelines of new China. In 1952, based on the experience of the Soviet Union, the major of "Urban Architecture and Management" was established. At this time, the system of comprehensive universities were decomposed and colleges specialized in engineering were set up to emphasize the engineering attributes in urban planning.

THE POLITICAL, ECONOMIC AND CULTURAL FACTORS IN SOVIET PLANNING.

Urban planning was a form of "central planning". Thus, it was an instrument for implementing the nation's economic development programme. Hence, it was taken for granted that urban planning should serve the purpose of the country's socialist industrialization, production and the welfare of the working population. Urban planning, especially neighbourhood or district planning, should promote the principle of self-reliance or self-containment. Larger enterprises or factories had complete sets of living facilities; eg shops, stores, theatres, recreational places, restaurants, hotels, hospitals, kindergardens, primary schools, middle schools, and even colleges. They became, in effect, self-sufficient subcities. "National form plus socialist content" was as the design concept advocated by the Soviet Union, with the characteristics of "realism under socialist conditions". The Soviet-style planning was characterized by an emphasis on formalistic street patterns and grand designs for public buildings and monuments which were built around huge public squares (Figure 6).

Fig. 6. The Preliminary Urban Planning of Zhanjiang 1955-1975. The red dotted line in the figure was the scope of the original Fort-Bayard. The figure can clearly reflect the characteristics of the Soviet planning: the functional core and the radioactive axis with public functions.

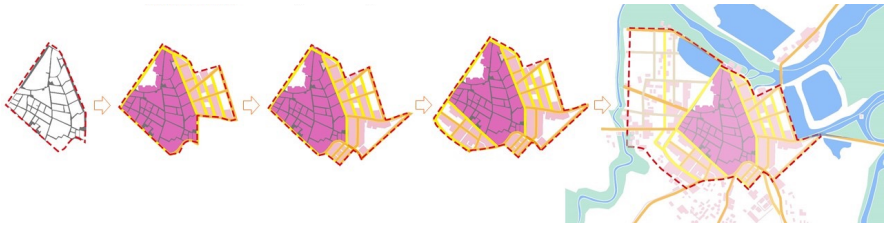

Fig. 7. The evolution of urban space expansion in Chékam 1898-1945. Firstly, the main road skeleton was planned in the periphery of the natural texture, and then the reclamation was made to form the commercial space of the wharf to connect with the original spatial texture, and then the new area was planned inland along the northern river to expand the commercial scope.

THE CHARACTERISTICS AND INFLUENCE OF PLANNING IN ZHANJIANG

Neither according to the actual situation of reality, nor based on the actual population and the environment present situation of the planning content, the feature of international planning diffusion manifested the urban planning as an instrument of regime and the urban space served the ideology and discourse power of the political subject in Zhanjiang. During the colonial planning period, aiming at serving the colonial politics, the urban reflect the characteristics of capitalist market economy. The urban space was the superposition of three spatial elements: the port space point and the infrastructure space network serving economic exploitation, the colonial political space and the local space driven by the market economy. The socialist planned economy was the main content of the socialist planning period, in which the construction indicators were uniformly distributed by the state. To understand the city from the perspective of the carrier function of production, the consumption space was extremely compressed, completely ignoring the centuries-old port commercial culture of Lei Zhou Peninsula and the commercial development foundation of the French colonial period.

The general principles of planning have been adapted locally to a certain degree. For example, when faced with Chékam, the old city of Zhanjiang, France adopted a completely different planning method from that of the medina of Tlemcen in the mid-19th century, such as the direct overlapped of the colonial planning grid with the local urban fabric in Tlemcen, and unified and integrated urban spatial structure in Chékam old city and new expansion area (Figure 7). The applicability of the typical model of Soviet industrial cities and the "collectivism" of enclosed housing was reconsidered by Soviet experts in Zhanjiang seaport city to cope with the hot climate in the southernmost part of the Chinese mainland and the hurricane environment in the seaport city. The urban space in both periods was the product of the international political and economic environment, which was manifested in the institutional structure of the combination of the fluid expert group and the local department, and the large-scale infrastructure investment strategy served the overall intention.

The international planning diffusion have a far-reaching impact, which first leads to the occurrence of a new generation of class and the first batch of planners; and to a certain extent, the planning system and spatial elements continue. The local administrative and military officials, and architects and contractors in Kouang-tchéou-wan played important roles in promoting the expansion of space construction and combining the ancient commercial port

culture with French architectural culture in architectural form; and during this time, they learned western engineering techniques and planning methods. The unique "Chinese model" urban planning system under the planned economy system from 1961 to 1977 absorbed and strengthened the "socialist" elements in the Soviet model. Furthermore, The Soviet planning deeply affected the Chinese urban planning methodology and became the kernel of the national teaching system. Urban planning emphasized the objectives and controlled the requirements with quotas broken down into indicative content, the planning arrangement of urban land and facilities allocation, the unified and precise expression of the intention and ultimate state of urban land use. Finally, Zhanjiang, as the core of city's historical space bore the contradiction of protection and development. Due to the lack of attention and understanding, the historical relics of Soviet socialist planning were not considered in the planning and research of urban historical protection, while the spatial elements of ancient commercial port culture and French style have been emphatically interpreted.

ACKNOWLEDGEMENTS

The research reported in this paper was supported by National Natural Social Foundation of China (No: 14BZS067)

DISCLOSURE STATEMENT

The authors claim no conflicts of interest.

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IMAGE SOURCES

Fig. 1 The author draws from historical data
Fig. 2 National Library of France, Digital Archive
Fig. 3 Zhanjiang Urban Construction Archives, Digital Archive
Fig. 4 The author draws from historical data
Fig. 5 The author draws from historical data
Fig. 6 Zhanjiang Urban Construction Archives, Digital Archive
Fig. 7 The author draws from historical data

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Earlier see S.V. Ward's study, and he has a comprehensive understanding of planning diffusion[1].

Ambe J. Njoh used the same research framework[2] in the study of French urbanization abroad, in terms of transmission routes, including the mechanisms of diffusion, the extent, and the fundamental causation of diffusion.

Ambe J. Njoh went deep into the mechanisms of diffusion including Government, Educational and scientific research institutions, Professional associations and journals, and International development agencies.

'The Soviet model' as documented by Yichun Xie and Frank J. Costa[4], the planning mode of colonial period was completely negated and imitated Soviet planning. Its actual influence on urban space and planning system needs to be further explored.

The Fort Bayard Plan as documented by Antoine Vanniere[5]. Guangzhouwan play the core role in the whole IndoChina.

According to government documents of IndoChina[6], Paul Doumer formed a planning committee under the general minister of Guangzhouwan.

Hélène Vacher found that France's early colonial planning was dominated by military engineers[7], which also happened in Guangzhouwan.

Socialist planning in Zhanjiang also had comprehensive urban functions, according to the urban planning text[9].

Study on the Spatial distribution Characteristics of Traditional Villages in Minjiang River Basin of China

Shuhu Liu, Longying Huang
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Abstract

Based on the identification of relevant research progress, the GIS spatial analysis and quantitative measurement are combined to analyze the spatial distribution of traditional villages and the correlation between the distribution and topography, water system, population, transportation, economy, and discusses the differences of factors and their action mechanism on the basis of the identification of the spatial characteristics of 315 traditional villages in the Minjiang River Basin, aiming to provide a basis for the regional protection of traditional villages. Research has shown that traditional villages in the Minjiang River Basin have the spatial characteristics of "stepped and unbalanced", relying on tributaries to form a dense area of traditional villages in the "two regions and one belt"; The influence of traditional villages within 3 kilometers is obvious, and the population density, economic level, and road network have the characteristics of polarization,that are significant high-high (HH) and low-low (LL) clustering phenomena, reflecting the complexity of the distribution of traditional villages in the Minjiang River Basin, Provide guidance for the regional protection countermeasures of traditional villages.

Keywords

Rural heritage, Chinese traditional village, Minjiang River Basin, Spatial distribution characteristics, Influencing factors

How to cite

Liu, Shuhu; Huang, Longying; "Study on the Spatial distribution Characteristics of Traditional Villages in Minjiang River Basin of China". In Carola Hein (ed.), *International Planning History Society Proceedings*, 19th IPHS Conference, City-Space-Transformation, TU Delft, 5 - 6 July, 2022, TU Delft Open, 2022.

5 JULY: SESSION 1.4

RESILIENT COMMUNITIES.

Chair: Hou Li

Research on Landscape Renewal Design of Industrial Heritage in Beijing Coking Plant Park

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Beijing Jiaotong University
China Architecture Design & Research Group

Abstract

Industrial heritage is a new type of human cultural heritage which carries the development memory of a city or even an era. In the process of urban planning and construction, the protection of industrial heritage is often accompanied by the renewal and reuse of industrial land. In the 1950s, Beijing began to build the Beijing Coking Plant in order to solve the three major problems of single fuel structure, serious environmental pollution, and huge energy waste. However, entering the 21st century is accompanied by the emergence of new policies such as Beijing's successful bid for the Olympics, the entry of natural gas into Beijing and the renewal of urban planning. The Beijing government needs to focus on the development of industries with high resource efficiency and less pollution in accordance with the requirements of the "scientific development concept". The Beijing Coking Plant has now become a ruined "brownfield". It urgently needs to become a wild force in the city, and thereby transform it into a unique, rich and spectacular industrial heritage landscape resource gathering place. The design will be based on the existing site characteristics of the Beijing Coking Plant Park, combining the landscape renewal design with the use of the industrial heritage park style and features to transform and regenerate the vast, fragmented landscape and chaotic layout of the site. The purpose is to organically link people's life and ecology through industrial culture, and organize the park to provide the public with industrial cultural experience, integrate with modern urban life, and build an urban public activity space that has a cultural interest and meets the needs of citizens. This topic tries to start from the overall situation of the origin and development of industrial heritage, combined with relevant domestic and foreign update cases and transformation models, and summarize a set of updates belonging to the Beijing Coking Plant Design method. The design will first conduct a preliminary analysis of the Beijing Coking Plant, such as research and analysis of the layout of the population, transportation, commerce, cultural tourism, housing, and greening in the area, and sort out its historical evolution, process flow, and current status pictures. Then select the remaining buildings according to the degree of pollution. Secondly, the design positioning is based on the different site issues in the coking plant, which are the activation of urban renewal, the call of site memory, and the transformation of industrial landscape. Finally, the coking plant carried out the design and transformation of specific measures to give it new site functions. Therefore, in the

future renewal design of the Beijing Coking Plant, the original features of this industrial park will be emphasized, and at the same time, new infrastructure will be provided for new activity scenes, so as to keep pace with the times. Let this industrial brownfield, which records the historical development of the city and carries the memory of the city, regain its life, create a new landmark of urban culture, and revitalize the sleeping industrial heritage.

Keywords

Industrial heritage, Urban Planning, Renewal and Transformation, Place Memory, The landscape design

How to cite

Xu, Jin; Sun, Yuan; Guan, Wujun; "Research on Landscape Renewal Design of Industrial Heritage in Beijing Coking Plant Park". In Carola Hein (ed.), *International Planning History Society Proceedings*, 19th IPHS Conference, City-Space-Transformation, TU Delft, 5 - 6 July, 2022, TU Delft Open, 2022.

Study on the Gentrification Process of Beijing-Zhangjiakou Railway Site Area from the Perspective of Cultural Heritage Regeneration

Jianjia Hua, Yuan Sun
Beijing Jiaotong University

Abstract

Since the first railway was opened to traffic in the 19th century, railways have provided the continuous development power for cities all over the world. Since the reform and opening up, with the high-quality development of urbanization and the improvement of transportation technology, the radiation of urban space has spread, a large number of industrial enterprises have moved out, and railway lines have been adjusted. Most of the old railway facilities in domestic cities have declined into abandoned sites and become the causes of problems such as urban spatial fragmentation, uneven urban development and breeding of traffic hidden risks. However, as a witness to the striving and rise of China's transportation industry in the past century and the common memory of the country and nation, it has extremely rich cultural and technical value. Under the background of violent demolition and irreversible damage of a large number of historical railways, more and more attention has been paid to the protection and development of existing railway cultural heritage in China. In order to serve the construction of supporting facilities for the Winter Olympics and the needs of urban development, Beijing-Zhangjiakou Railway-the first main railway independently designed and built by Chinese people, was officially shut down in 2016. In October, 2021, as a "pilot project for upgrading urban public space in Beijing", the first phase of Beijing-Zhangjiakou Railway Ruins Park will be constructed in phases and sections with a total length of 2.4 kilometers, and this project also marks a practical exploration of the renewal and protection of railway heritage in China while building a green citizen park. However, as an important part of urban renewal, the renewal and protection of railway sites will inevitably produce contradictions such as demolition and reconstruction with gentry characteristics, land replacement, class transformation, etc. In the meantime, it will have a practical impact on local residents' landscape justice and cultural memory. With the development of social complexity dominated by economy, the forms of gentry are diversified, and the concepts of commercial gentry, rural gentry and green gentry are derived. Currently, some domestic scholars have begun to pay attention to a series of influences caused by gentry, especially the relationship between cultural heritage protection

and gentry, and mostly take the old city or historical industrial block as the research object, and analyze the realization mode, dynamic mechanism and associated phenomena of gentry from the current situation of the site. This paper takes cultural heritage as the research subject, focuses on the gentry influence such as space replacement, green space distribution and residents' emigration in the process of cultural heritage protection. Taking the construction of Beijing-Zhangjiakou Railway Ruins Park and the operation of the old line of Subway Line 13 as an opportunity, the communities around Xizhimen subway station was inspected. Based on the questionnaire survey and theoretical model, this paper summarizes the various material and spiritual needs of local residents, quantifies the positive and negative impacts of the renovation and construction of Beijing-Zhangjiakou Railway Site on the attitude and participation of local communities, and discusses the gentrification dynamic mechanism and causes of cultural heritage and the optimization possibility of historical and cultural activation and reconstruction of Beijing-Zhangjiakou Railway Site.

Keywords

Beijing-Zhangjiakou Railway site, Heritage Gentrification, Urban Spatial, Landscape Justice

How to cite

Hua, Jianjia; Sun, Yuan; "Study on the Gentrification Process of Beijing-Zhangjiakou Railway Site Area from the Perspective of Cultural Heritage Regeneration". In Carola Hein (ed.), *International Planning History Society Proceedings*, 19th IPHS Conference, City-Space-Transformation, TU Delft, 5 - 6 July, 2022, TU Delft Open, 2022.

Civic regeneration
The case of Auckland's Quen Elizabeth II Square

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Abstract

Auckland's Downtown regeneration commenced in 1965. The Auckland Harbour Board's Prospectus called for international tenders to redevelop seven acres of prime reclaimed waterside land at the entrance to New Zealand's largest city. Stage 1 of a c.15-acre site was the most significant post World War II urban renewal project in the country - and envisaged as a modern complex of high and low rise buildings and high-quality public spaces replacing a jumble of decaying, outdated facilities. The paper focuses on the intent to enhance the public realm through the development of Queen Elizabeth II Square, drawing on archival evidence. The Auckland Harbour Board commissioned New Zealand's first Professor of Town Planning, Robert Kennedy, to prepare a Downtown master plan in 1963. Kennedy proposed a square of civic importance. The project, reviewed by Melbourne-based property consultant George Connor, was revised and re-focussed on commercial imperatives - informing the Harbour Board's Prospectus. Queen Elizabeth II Square, a fraction of Kennedy's vision, opened in 1980. A contribution to the public realm (offsetting the closure of several streets) and contested through the legal processes by young Auckland architects, planners and lawyers, who identified the wind and shadowing effects of adjacent buildings on the quality of the space. In 2015, The Auckland Council (succeeding the City Council in 2010) rezoned the site and sold it to a developer for commercial 'revitalisation'. The arguments for repurposing the Square from the Council and developer, ironically based on the effects recognised by activists in the late 1960s. This paper raises questions about the disconnection of space from the philosophical principles of urban planning, stretching back to Aristotle. Through a longitudinal and contextual case study, it shows that those holding public positions have compromised citizens, civics, and the evolving tissue of the city, influenced by pragmatism and powerful private interests.

Keywords

Civic regeneration, Auckland New Zealand, Privatisation and politics, Public realm quality

How to cite

Aitken Rose, Elizabeth; "Civic regeneration: The case of Auckland's Quen Elizabeth II Square". In Carola Hein (ed.), *International Planning History Society Proceedings*, 19th IPHS Conference, City-Space-Transformation, TU Delft, 5 - 6 July, 2022, TU Delft Open, 2022.

5 JULY: SESSION 1.5

NEW TOWNS/AUSTRALIA.

Chair: David Nichols

Shining examples
Planning new towns in Gippsland, Victoria

David Nichols
University of Melbourne

Abstract

For over a century the state of Victoria, Australia has been dependent on coal reserves in the Gippsland area, to the east of the capital city of Melbourne, to develop its industrial power. During that time pastoral or undeveloped land has been transformed via open-cut mining into a primary resource region. Simultaneously the area's history mirrors the 20th century's best-practice thinking on new town development. This has been so both in the design and execution of regional cities to supply labour for resource extraction and related industries, but also for ideas to provide 'overspill' relief for Melbourne itself. As in other nations vying to progress from rural to manufacturing economies, the generation of electricity was seen as key to Victoria's future following World War I. The State Electricity Commission (SEC) led the way in building resource-focused new towns with the construction of Yallourn, a greenfield town established in 1922 in which all properties were SEC-owned and let only to employees. A quarter-century after its creation the SEC commissioned a survey and report for the wider region from consultant planner Frank Heath. Yallourn operated successfully for fifty years with a peak population of 5000, before the SEC's decision to dismantle it to access the coal underneath. Another new town, Churchill, had already been declared in 1964 with the expectation that some of Yallourn's population would relocate there. Churchill, described in promotional literature as a 'shining example of an ideal township', was built by the state's Housing Commission rather than the SEC, for a target population of 40,000 people. The Commission already had experience in the region, not only in adding substantially to pre-existing towns such as Traralgon and Morwell but also in creating Newborough, a large residential area adjacent to the old town of Moe. The newly expanded cities of the region were culturally diverse and their cultural, education, health and recreational needs required experimental and adventurous solutions in community building and resource distribution. Against that backdrop, the exertions of two important planning critics were brought to bear on visions for Gippsland. Ruth and Maurie Crow were amateur planners and avowed long-term communists, responsive to their social environment but also drawing from a core of interwar Soviet planning ideas. One important element of their work was a proposal to build a long series of segmented urban developments along a road/rail corridor into Gippsland. The 'Crow-Fraser-Stretton' linear corridor's validity was vested in the solid and influential book Ideas for Australian Cities, Hugh Stretton's 1970 treatise on urban planning and society in the late 20th century. This paper reviews the key schemes and projects in a historical overview of the development of the Gipps-

land region. It discusses the adaptation of the new town ideal over half a century as well as its ideological underpinnings and contestation.

Keywords

regional planning, industrial towns, new cities

How to cite

Nichols, David; “Shining examples: planning new towns in Gippsland, Victoria”. In Carola Hein (ed.), *International Planning History Society Proceedings*, 19th IPHS Conference, City-Space-Transformation, TU Delft, 5 - 6 July, 2022, TU Delft Open, 2022.

Building the case for new cities in post-World War 2 Australia

Robert Freestone, Nicola Pullan
UNSW Sydney

Abstract

The idea of seeding new planned cities as alternatives to the metropolitan dominance of the Australian urban system goes back more than a century but came to a head in the 1960s. This decade saw a decisive new consensus emerge amongst government officials, built environment professionals and progressive political leaders on the perceived unsustainability of continued big city growth, especially in Sydney and Melbourne. The global pre-history of garden cities and new towns constituted the benchmark for innovation along with domestic experiments of note from the planned national capital of Canberra (1912) to smaller garden and metropolitan satellite towns. But in the 1960s what had been largely restricted to town planning theory broke out into a wider and more inclusive discourse grounded in urban research, design and policy thinking. Renovating existing cities was the priority to address the environmental, social and economic issues accompanying large-scale urban growth, but a complementary thematic crystallised around new cities which could transcend existing urban problems through starting afresh on greenfield sites either on the metropolitan fringe or in regional locations. A case was slowly assembled from an informal coalition of urban thinkers and researchers with the reorientation of long-established decentralisation policies from dispersed to locationally targeted incentives. Accelerated population growth and projections through the 1960s bred a sense of a national urban crisis amid a more supportive environment countenancing bolder nation-building strategies. The new city vision was never universally accepted, and critics channelled a long-standing historical ambivalence towards the idea of starting again given the path dependency of traditional patterns of urbanisation built around established lifestyle preferences, productive capacity and infrastructure commitments. This paper explores the rhetorical case for new cities as it evolved through the 1960s and into the early 1970s. It identifies and discusses the agendas of some of the key players – individuals, think-tanks, organisations and institutions. At the same time it acknowledges critiques of new city thinking which enriched the public debate. The approach is thus framed around a moving dialogue between advocates and antagonists with academic researchers falling into both camps. The case made was eventually compelling enough for the Australian Government to commit to a national growth centre program in 1972. When it largely petered out within a few years, urban policy was redirected back to its renovation mode. This denouement from a distinctive period in Australian urban policy ultimately raises important questions regarding

the process of transitioning from rhetorical to political consensus and in turn the challenge in translating visions into realities.

Keywords

new towns, Australia, Post-World War two

How to cite

Nichols, David; "Building the case for new cities in post-World War 2 Australia". In Carola Hein (ed.), *International Planning History Society Proceedings*, 19th IPHS Conference, City-Space-Transformation, TU Delft, 5 - 6 July, 2022, TU Delft Open, 2022.

Transformative planning for the Pilbara periphery

Julian Bolleter
AUDRC

Abstract

This paper explores reoccurring planning to populate Western Australia's rugged northwest Pilbara region that commentators have labelled 'the periphery of the periphery of a peripheral Australia.' Indeed, despite its plentiful mineral resources and related economic might, the Pilbara is sparsely settled; covering over 506,000 square kilometres, only a little over 45,000 people live in the region. This presentation provides a visual cross-section of various planning approaches – the New Town movement, Radburn planning, and New Urbanist planning – deployed in a remote context far removed from what the original proponents of these movements intended. Given the Federal Australian Government's plan to increase the population of northern Australia four-fold by 2060, this paper explores the inherent issues in applying such generic planning models to remote areas. It considers the potential of the Pilbara to generate endemic models of urbanism reconciled with the region's climate, culture, and landscape.

Keywords

The Pilbara, decentralisation, new towns, new cities

How to cite

Bolleter, Julian; "Transformative planning for the Pilbara periphery". In Carola Hein (ed.), *International Planning History Society Proceedings*, 19th IPHS Conference, City-Space-Transformation, TU Delft, 5 - 6 July, 2022, TU Delft Open, 2022.

5 JULY: SESSION 2.1

PLANNING IDEAS.

Chair: Clement Orillard

Industry and Pannonian City
The Transformative Role of Industry for the Modern Development of Middle-size Cities in Northern Serbia

Branislav Antonić, Aleksandra Djukić
University of Belgrade

Abstract

Industrialisation and the related rise of a modern city in Eastern Europe have had very different development trajectories than those in Western Europe due to the changes of both political and economic systems. This can be seen on the example of the development of industry in six middle-size northern Serbian cities in Pannonian Plain that passed through three noticeable periods: (1) early industrialisation in an emerging capitalism of Austro-Hungarian Monarchy in late 19th and early 20th century, (2) planned industrialisation in socialism in the second half of 20th century of Yugoslavia and (3) de/reindustrialisation tendencies in post-socialist transition since the 1990s. All three periods of industrial development have left immense consequences on the cities, their urban fabric and land use. Hence, the aim of this paper is to explain the pace of industrial development in six selected cities since the rise of capitalism in early modern periods in 18th century, as well as their spatial and social impact on urban fabric and urban planning and regulation thereof. This research thereby gives an insight into the locally rare examination of an industry-driven urban development, contributing in the understanding of this, generally underestimated planning legacy.

Keywords

Modern era, industrial city, socialist industrialisation, reindustrialisation, urban matrix

How to cite

Branislav, Antonic; Djukić, Aleksandra; "Industry and Pannonian City: The Transformative Role of Industry for the Modern Development of Middle-size Cities in Northern Serbia". In Carola Hein (ed.), *International Planning History Society Proceedings*, 19th IPHS Conference, City-Space-Transformation, TU Delft, 5 - 6 July, 2022, TU Delft Open, 2022.

DOI: 10.7480/iphs.2022.1.6441

INTRODUCTION

A common view on Eastern/post-socialist Europe is that it is in contrast to Western Europe due to the divisive history of the continent in the last hundred years. Eastern Europe passed through socialist/communist period, with ongoing consequences in long-lasting post-socialist transition. This has not been the case with Western Europe with undisturbed market-driven economy for centuries. The same view can be applied to a dichotomy between Western and Eastern European cities as the main spatial 'protagonists' in the economic development of the continent[1].

Nevertheless, this can be a scientific glimpse. The Eastern Europe, including its cities, had a semi-peripheral position at the continent for centuries, i.e., much longer that socialist period. The most of European power-states were developed at the European West during Middle Ages and early modernity[2,3]. Eastern Europe further had the many historical downturns due to their openness to Central Asia, from which there were numerous invasions to Eastern European states during these centuries. Such historic conditionality makes their cities weaker. They thereby played a lesser role in the rise of early capitalist economy and a modern citizenry[4,5]. As a result, Eastern Europe inherited an underdeveloped urban system before 20th century[6].

The (post-)socialist features of Eastern European cities are, however, crucial for their modern urban development[7,8]. One of them main denominators of a socialist city is certainly an industry. According socialist ideology, a modern city is an industrialised one[9]. Although the socialist period was marked by a planned rapid industrial development, early industrialisation in Eastern Europe began decades earlier, in the 1860s-1870s. This was happened in the westernmost parts of spacious Austro-Hungarian and Russian empires, while it traversed to their eastern parts till the end of century[10]. Generally, this process was fuelled by the fast development of rail transport as by far the fastest and most efficient mean of transportation before the World War I. This late industrialisation for European context gathered pace soon; both empires had a high annual growth rates till the World War I, but they were still economically behind Western European powers[11,12]. Side by side with this fast industrialisation, social inequalities accelerated. This was especially visible in the centres of industrialisation – demographically booming major cities with uncontrolled growth[13]. Therefore, cities in Eastern Europe became the right 'candidates' for new political experiments, such as socialist revolutions.

Although 1917 was a decisive year for the establishment of the USSR as the first socialist state, the formation of the model of a socialist city lasted for at least next three decades. The first 15 years were critical in this process due to the overall dynamics and the spirit of experimentalism[14]. In this constellation, an imperative on mass-industrialisation, accompanied with workers as a focus group, was in urban policy[15]. Actually, "urbanization was considered a side issue of industrialisation"[16]. The spatial reflection of this ideological approach is vast industrial zones in (post-)socialist cities, usually 2-3 time larger than in western counterparts[17]. The location of new, socialist industry was well-planned to fulfil the necessities of a socialist city and its inhabitants. In one hand, industry in an ideal socialist city had to be close to workers' dwellings, so they did not spend more than 10-20 minutes walking to their working place[18].

In the other hand, some more pragmatic modernist principles of urban sanitation were also implemented, such as locations along rivers as waste collectors[19].

This socialist city based on mass-industrialisation was proved to be very fragile to the changes of political and economical systems in the early 1990s. One of the most problematic urban consequences of the collapse of socialist states was the sharp decline of industrial production – deindustrialisation[20]. This further caused the significant rise of unemployment in many post-socialist cities and population crisis with demographic decline thereof[21]. After the first wave of mass-deindustrialisation, new industry, driven by western companies, emerged in post-socialist cities. In some cases, this reindustrialisation process happened by the restructuring and privatisation of the former socialist industrial plants, such as the well-known transformation of the former "Škoda Auto" plants in Mlada Boleslav, Czech Republic, into a modern car factory by new owner, German Volkswagen Group. Nevertheless, many old plants have become a brownfield land, with a great negative impact on the entire urban environment[22]. In contrast to them, many new factories have been built as greenfield investments along the main exit corridors from post-socialist cities. For example, many post-socialist countries were among the best rated ones by Greenfield FDI Performance Index in 2019[23]. Although this gap of post-socialist industrial zones between brownfield and greenfield is easily noticeable, it also presents the rational approach of global capitalism at local level, to skip spatial and functional obstacles, burdened in old industrial plants and zones.

The afore explained features of Eastern European urban system underline that the full picture of the modern urbanisation in this part of Europe cannot be scrutinised without differentiating three periods in periods in urban development: pre-socialist/early-capitalist, socialist, and post-socialist/transitive from socialism to capitalism. Explaining that industry is in the very heart of the construct of a modern Eastern European city, it is in the focus of this research. Concretely, the aim of the research is to explain the pace of industrial development on the example of six selected middle-size Pannonian cities in present-day northern Serbia since the early industrialisation in late 19th century, as well as its spatial and social impact on urban matrix and urban planning and regulation thereof. This is done in the form of the overview of three aforementioned development phases, where the links between historic circumstances, industrial growth, and urban evolution and planning are bridged. Hence, this research gives an insight into the locally rare examined, industry-driven urban development, contributing in the understanding of this, generally underestimated planning legacy.

METHODOLOGY

The presented research is developed as a multi-case study. To properly set up it, concise information about the regional profile of the topic is given in the introduction section. This refers to the role of industrial development for the formation a modern city in post-socialist Europe, with three periods and their main components:

1. Early industrialisation in emerging capitalist city: first industry along railways and around railway stations;

2. Planned industrialisation in socialist city: spatially interconnected development of housing for workers (multi-family housing) and preferred location of industry along the rivers and the other waterways for sanitation issues; and
3. De/reindustrialisation in post-socialist city in transition: decline of old industrial zones and the rise of new ones, along the main exit roads from cities, especially if they lead to nearby highways.

These components are treated as criteria to analyse the selected case studies, which are six cities, located in Pannonian plain in the Northern Province of Vojvodina of the Republic of Serbia. They are: Kikinda, Pančevo, Sombor, Sremska Mitrovica, Subotica, and Zrenjanin (Fig. 1).

All these cities are intentionally selected, because they share several important characteristics; this approach simplifies their comparison and the derivation of qualitative conclusions:

- Medium-size cities for Serbia: population 30,000-100,000;
- The same position in second-level administrative division in Serbia: seats of Serbian districts (NUTS3);
- In line with the previous characteristics, all selected cities have similar urban functions and public facilities, such district hospital and 4-5 secondary schools;
- Location in (Pannonian) Plain, which implies fewer natural limitations for spatial development;
- Similar historic development in the last three centuries, i.e., during Habsburg/Austro-Hungarian Empire (1699-1918), Yugoslavia (1918-2006) and the Republic of Serbia (2006-);
- The same conditions relating relevant Serbian legislation on urban planning. For example, general urban plans are required for all six cities require, which is not the case with smaller cities and towns.

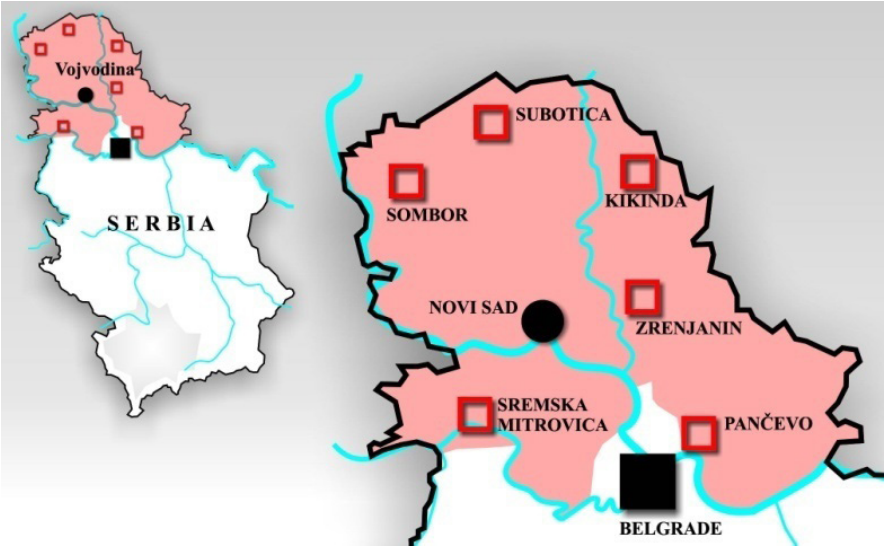

Fig. 1. The location of six cities-case studies in Serbia and Vojvodina Province

PERIOD 1: EARLY INDUSTRIALISATION IN EMERGING CAPITALIST CITY

The roots for early industrialisation in Southern Pannonia were set up in the early 18th century by Habsburg Empire, with the deep spatial transformation of this previously Ottoman area (16th-17th centuries). The new rulers found completely devastated area with a small population, imposed a military government on it and their military engineers rationally reshaped the entire territory; orthogonal matrix was implemented radically on both settlements and land plots[24]. This strict regulation enabled the fast development of urban settlements in Southern Pannonia[25]. Habsburg government also supported mercantilist capitalism measures, so the first manufactures based on rich agriculture, such as bigger mills and breweries, were established in major settlements during 18th century[26].

A demarcation year for early industrialisation in the selected cities was 1867, when centrist Hapsburg Monarchy was transformed into dual Austro-Hungarian Monarchy. This event boosted the overall development of less developed Hungarian half, where Southern Pannonia was located. The precondition for early industrialisation was the Revolution 1848/49, when feudalism in the Monarchy was dissolved and newly free peasants as cheap labour flooded its cities[27]. Economically speaking, the development of railway network in the monarchy was critical for the industrialisation[28]. The demarcation year in this sense was 1859, when the first train arrived to Southern Pannonian cities. In next three decades, all major cities were connected by railways[29] and Southern Pannonia eventually got the densest rail network in the whole Danube Region before the World War I[30].

Fig. 2. Old industry (cc. 1870-1918) in the cities of Northern Serbia

The industrialisation included both the transformation of old manufactures and the establishment of the first full factories. Additionally, the diversification of industrial production took place. Meat packing factories and sugar refineries, as well the first non-food industry, such as a brick, tale and furniture production, appeared (Fig. 2).

All these transformations reflected in urban fabric (Fig. 5, left). New industry was primarily built along rail and around the railway stations at (then) urban periphery instead of old manufactures along rivers. It formed the oldest industrial zones in these cities[31]. A good example is still active big mill factories in Kikinda, Sremska Mitrovica, and Zrenjanin, which were located next to railways stations. Exemptions from this rule were conditioned by specific circumstances, usually related to the limited availability or accessibility of raw materials, such as clay for brick and tale production or wood for furniture industry.

The development and location of a new industry in Southern Pannonian cities further influenced the other urban functions and the overall increase of urban densities and urbanity. For instance, new, denser residential neighbourhoods followed the rise of industry and rail, sprawling around them. This ultimately caused the creation of the first full urban regulation plans, so this period before the World War I can be marked as the beginning of a modern urban planning in these cities[32].

PERIOD 2: PLANNED INDUSTRIALISATION IN SOCIALIST CITY

Short interwar period was not important to be separately examined. It was the period of an economic stagnation for the selected cities in Southern Pannonia. They could not utilise their advantages in the newly established the Kingdom of Serbs, Croats and Slovenes or the Kingdom of Yugoslavia from 1929. This region was above-average developed in the new kingdom, with more 1/5 of all enterprises[33]. Moreover, it was the most urbanised part of the country; 1/3 of population was urban in the first census in 1921[34]. This was in a sharp contrast to the fast growth of the centrally located City of Novi Sad, an emerging political centre[35] in Southern Pannonia[36].

The end of the World War II, nevertheless, brought a new impulse in six selected cities. The political and economic systems of Yugoslavia were totally changed, embracing socialism and planned economy (Haug, 2012)[37]. The second Yugoslavia (1945-1992) was also a federalist and decentralised state; the aforementioned Autonomous Province of Vojvodina (Fig. 1) with a strong local identity[38] was created from the area of Southern Pannonia. This was the part of the broad scope of the measures, done to form a unique socialist way in the Yugoslavia, known as a workers' self-management[39].

Yugoslavian urban planning and cities were positioned to be a role-model for the implementation of this unique socialist idea[40]. In the case of cities in Vojvodina, their independence and the self-development of local standards and norms for urban planning and architecture was visible in space, especially in late socialism. For example, all selected cities mainly preserved their historic cores and buildings[41] or omit the construction of mass-housing estates by supporting small neighbourhoods and single-family residential construction[42].

Fig. 3. a food-processing plant (big mill) in Pančevo from socialist period (Year 2018)

Despite its specificity, workers' self-management in Yugoslavia maintained the main pillars of a socialist system, such as its devotion to (urban) proletariat and related mass-industrialisation. Therefore, it preserved the general interest to support urbanisation by mass-industrialisation. K. Petovar (2003) named this approach as an "urboocentric policy"[43]. First, all industrial enterprises in Vojvodina were nationalised after the WWII[44]. Then, many new industrial plants were built in the selected cities. They usually belonged to light industry, particularly food processing industry due to a rich agricultural base in plain Vojvodina (Fig. 3).

The planned industry of the socialist system was more thoroughly realised through a novel urban planning, based on the tenets of modernist urbanism (Fig. 5, middle). A proper dealing with industrial waste was important, so then effective sanitarian-hygienic measures were implemented[45]. New industrial zones were built along the waterways downstream to cities. In the other side, the cities without waterways witnessed the enlargement of already existing industrial zones. The other ecological principles were not considered, which has become a problem for citizens[46]. Finally, old nationalised factories were mainly preserved in their initial locations, with additions and modernisation.

PERIOD 3: DE/REINDUSTRIALISATION IN POST-SOCIALIST CITY IN TRANSITION

The first decade of post-socialist transition in Third Yugoslavia (1992-2006) was more severe than in the other parts of Eastern Europe. The collapse of socialist system was followed with a deep, decade-long political and economic crisis with wars. This grave situation was reflected through economy; it was estimated that the industrial production of Serbia in 1998 was 1/3

of that from 1990[47]. At the same time, factories from socialist period were preserved active despite obsolete technology[48].

The economic 'recovery' after the 2000 has been seen more as a loosely controlled growth than development[49]. It has been mainly explained through that biting reforms endorsed neo-liberal capitalism in Serbian industry[50]. This was followed with the closing of many previous public industrial enterprises. For example, 30 such enterprises were locked during the 2010s just in Zrenjanin[51]. The other questionable events were the numerous failed privatisations of such enterprises or even their "quasi-privatisations" to buy cheap urban land in central locations, to use this land for other purposes, such as a new multi-family housing[52] (Fig. 5). Therefore, many such factories and plants have lost their function and became a problematic brownfield land. In the meantime, some of them have been valorised and protected as an industrial heritage (Fig 2).

Last years has been characterised by the wave of reindustrialisation, but at new, greenfield locations at urban fringe, usually along the main exit roads. The most attractive locations are those that lead to highways (Fig. 4) or are exit roads to major cities (Belgrade and Novi Sad). The reindustrialisation through greenfield investments has been overlapped with the new phenomenon of suburban shopping centres, which mutually refragmented the urban matrix again, towards completely unfamiliar polycentrism. This trend opens new challenges for the urban planning (Fig. 6, right) of the selected cities that will be in the focus in the future.

Fig. 4. Old brewery in Sremska Mitrovica was turn down for new multi-family housing in 2008

FINDINGS AND DISCUSSION

The research presents the industry-driven urban development of six Serbian cities in Southern Pannonia. In line with three distinctive periods in the modern history of Eastern Europe – pre-socialism, socialism and post-socialism – the research was organised in three steps, trying to identify mutual influences between industrial and urban development in the "microcosm" of these six cities. Findings can be scrutinised trough the Figure 6.

The image shows that rail was clearly the main driver of early industrialisation – the first industry concentrated mainly around railway stations. As it was pointed out, the exemptions were caused unusual circumstances. For instance, brick and tale industry in Kikinda[53] was positioned in the south of the city, where local clay reserves were abundant, but on the opposite side of the city regarding railway station. Another illustrative exemption is "Varda" wood processing industry in Sremska Mitrovica, which railway station was on north. Nevertheless, this factory was built on the Sava River at the city westernmost edge, because of its dependence on the waterway transport of wood as a key raw material from nearby Bosnia upstream (west).

Industrial development in socialist era can be divided between the case studies with and without waterways. Four analysed cities got spacious industrial zones with several big enterprises next to the rivers (Pančevo-south, Sremska Mitrovica-southeast, and Zrenjanin-south) and a canal (Sombor-south). In the other side, Kikinda and Subotica as two cities without waterways witnessed the enlargement of already existing industrial zones.

Finally, post-socialist period 'unifies' all six cities by industrial development; all of them has got new industrial zones along the main roads as a key development driver, but with different pace between them. While Zrenjanin and Subotica have got big industrial zones on their (western) edges, in the other cities, these zones are smaller and more dispersed between several exit-roads from a city. Similarly, all cities have got industrial brownfields, which are evenly distributed between old pre-socialist sites in inner urban areas and socialist sites at urban outskirts.

Fig. 5. New factories built as greenfield investments along highways in Vojvodina (Year 2020)

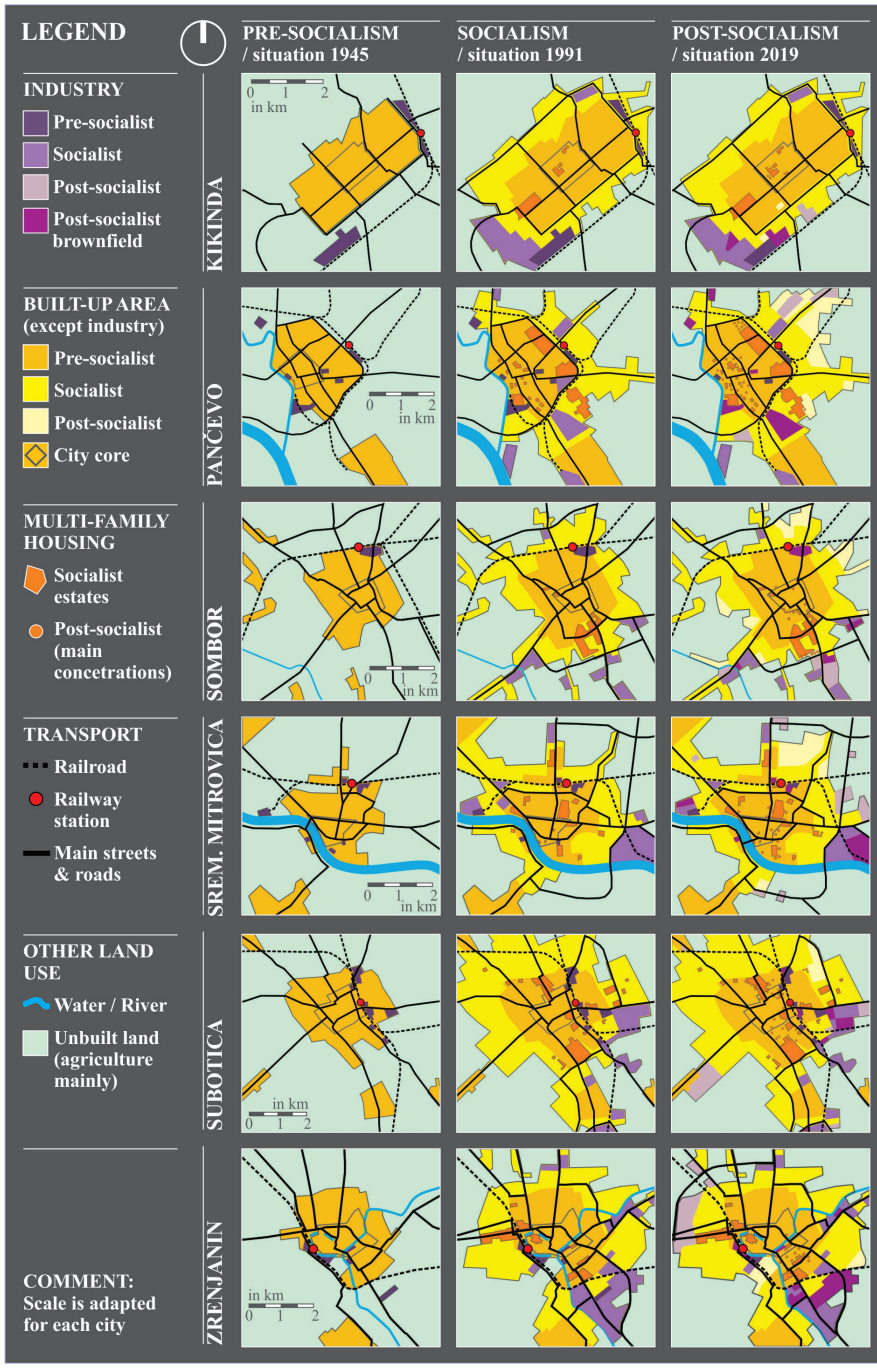

Fig. 6. Industrial development vs. urban development in six case studies

CONCLUSION

If the previous findings are considered at regional/post-socialist context, it is obvious that industrial development in Serbian middle-size cities in Southern Pannonia reflect a three-period industrialisation in post-socialist Europe. Nevertheless, there are some differences. The proximity between the multi-family housing and industry built during socialism as important in socialist urban agenda is not noticeable in the most of these cities. At contrast, the planned industrial development in the form of large industrial estates is visible in all cases. Interestingly, the vitality of these zones during post-socialist transition depends if their roots were already settled in pre-socialism. For example, it seems that industrial zones in Subotica and Kikinda, founded in 19th century and further developed through 20th century, are more vital than socialist industrial zones in, for example, Sremska Mitrovica or Pančevo, specially formed within planned economy. Moreover, the cities with more spacious newer greenfield industrial zones are usually the same ones with more industrial brownfield sites.

Final recommendations are based on these conclusions:

1. The main recommendation is that urban development need to be better coordinated with the overall urban development of all cities, to prevent the unnecessary enlargement of built-up areas;
2. Historic data shows that transport-driven development of industry is the most rational one, while the other approaches are with the higher risk to be become a brownfield. Thus, this approach should be supported in urban plans, with the adequate respect of ecological measures. The special focus should be the transformation of the brownfields along the main roads;
3. All presented cities have the relatively similar ratio between greenfield and brownfield sites, which implies that this is not just a local situation. Therefore, comprehensive actions at regional or national level should be enacted, in the form of an appropriate strategy.

ACKNOWLEDGEMENTS

This paper is done as a contribution for two international projects: (1) Project “Creative Danube: Innovative teaching for inclusive development in small and medium-sized Danubian cities” of Erasmus+ KA2 Programme, financed by the European Union; and (2) Project “DANURB+ DANube Urban Brand + Building Regional and Local Resilience through the Valorization of Danube’s Cultural Heritage (DTP3-433-2.2), co-funded by the EU through INTERREG Danube Transnational Programme.

IMAGE SOURCES

Fig. 1 created by first author of the paper
Fig. 2 Source: Vesna Karavida and Jasmina Vujović, 2016; accessed March 15, 2020: http://www.zrenjaninheritage.com/archives/13080.
Fig. 3 from the collection of the first author of the paper
Fig. 4 from the collection of the first author of the paper
Fig. 5 from the collection of the first author of the paper
Fig. 6 created by first author of the paper

DISCLOSURE STATEMENT

No potential conflict of interest was reported by the authors.

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Re-uncovering the collectivism in Mao's China, 1950s-1970s
The workers' villages in Northeast China

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Abstract

This article focuses on the workers' villages in Northeast China during Mao's period (1950s-1970s). This region is considered as one of the first that realized socialist industrialization, where an explicit emphasis was put on the broad new living-conditions and lifestyle of the industrial employees' lives. This study will illustrate, that due to the sufficiency of supplementary infrastructure and facilities, together with a highly ideological administration, such workers' villages can be described as micro-society, apart from the city, enhancing the inner members' collectivity as a whole. At the same time, on a social level, people in workers' villages lived as one collective through their everyday interaction and self-management. This regime was challenged in the 1978-national reform when the decline was announced of the established structure and regulations served towards the egalitarianism, collectivism, and ultimately communism. At the same time those workers villages were absorbed in the growing Chinese cities, making them part of the present-day urban fabric. This article also emphasizes the importance of this vanished collectivism, which is more than just a communist product that reflects past political, social, economic, cultural, and spatial facets, but is also a rare and important heritage with an important socio-spatial significance.

Keywords

communist regime, industrial neighbourhood, socio-spatial perspective, identity, architectural heritage.

How to cite

Zhang, Yiping; Schoonjans, Yves; Gantois, Gisèle; "Re-uncovering the collectivism in Mao's China, 1950s-1970s: The workers' villages in Northeast China". In Carola Hein (ed.), *International Planning History Society Proceedings*, 19th IPHS Conference, City-Space-Transformation, TU Delft, 5 - 6 July, 2022, TU Delft Open, 2022.

DOI: 10.7480/iphs.2022.1.6443

INTRODUCTION

The term *collectivism* is well-established in the Chinese society and is usually associated with *solidarity*, *dedication*, *selflessness*, and even *patriotism*. It is considered a traditional virtue of the Chinese nation and a moral principle in the revolution and construction leaded by the Chinese Communist Party (CCP)[1]. The Modern Chinese Dictionary[2] explains it as: the idea of starting everything from the collective and putting collective interests above individual interests, which is one of the basic spirits of socialism and communism. From an international perspective, *collectivism* was introduced by Engels as early as the end of the 19th century[3]; Lafargue (a student of Marx and Engels) in his article "Collectivism - Communism" published in 1888 focused on the concept of *collectivism* in economy[4]. The first person to really define *collectivism* was the Soviet scholar Lunacharsky, who argued that "the basis of proletarian morality is the principle of collectivism, and that the interests of society take precedence over the individual."[5] Stalin believed in the unity of the collective and the individual: "There is not and should not be an irreconcilable opposition between the individual and the collective, between individual and collective interests. There should not be such an opposition because collectivism, socialism, does not deny individual interests, but combines individual and collective interests."[6] At the end of the 20th century, *collectivism* was gradually not considered the preserve of communist countries, and was most classically analysed by Triandis[7] as a syndrome of feelings, emotions, beliefs, ideology, and actions, which is reflected in the following seven areas:

1. Considering the impact of one's decisions and actions on others (gains and losses).
2. The sharing of material goods.
3. The sharing of immaterial goods, such as time and energy.
4. Vulnerability to social influences.
5. Valuing self-expression and evaluation of others.
6. Sharing of consequences, e.g., a member's mistakes implicate the whole group.
7. Involvement in personal lives of others.

At the same time, he distinguishes societies between *collectivist culture* and *individualist culture* according to their social attributes. Of course, both cultures must exist in different societies, and the difference is only whether collectivism or individualism prevails. There is no doubt that East Asian societies belong to the *collectivist culture*[8], especially after China entered 1950s, *collectivism* was strongly preached and implemented, reflected in all aspects[9].

Similar to Soviet Union, the new China centred its initial socialist construction on the establishment of a heavy industrial system. During the First and Second Five-Year Plans (1953-1962), a large number of those industrial projects, referred to as the "156 Key Projects", were initiated with the aid of Soviet technology and personnel. Most of them were located on the outskirts of cities or even far away from them. As early as 1845, Engels pointed out that housing was important for the working class[10]. Out of the demand of solving the practical difficulties of workers' life, implementing the concept of socialism and fulfilling the political promises of the ruling party, the government imitated the concept and form of collective housing of the Soviet

Union and built residential areas for industrial workers adjacent to factories, which were also called "workers' villages" or "workers' new villages". In addition to housing, the workers' village was equipped with adequate living support facilities to provide workers with a wide range of social services, including medical care, education for their children, recreation and leisure. As part of the new government's political commitment, the village was not only considered a public housing project, but was also given the expectation of demonstrating the achievements of socialist urban construction and the advancement of collectivism life and life-style. During the 1950s-1970s period, China's urban residents were tightly organized through *Danwei*[11] for production and living, and were consciously led to a collectivized life[12]. The workers' village, as a residence for the largest urban population of industrial workers at that time, and the most typical *Danwei* community, built a medium-sized or small society with collectivity at its core[13], based on the overlay of political, work and neighbourhood relations to which they belonged[14].

The Northeast China (NEC) is the industrial capital of the new China and is known as the Eldest Son of the Republic. More than one-third of the "156 key projects" were located in NEC, resulting in a large number of constructed workers' villages. The nationwide economic reform that began in the late 1970s and the urban housing reform that began in the 1990s hit NEC harshly, and a lot of villages were demolished in the urban renewal process. However, even in the leftover workers' villages, the residents' identity have changed drastically, and the former collective way of life has gradually disappeared. We are curious about how these spaces that were designed to support collective life are now being used (or neglected), what their value is in the contemporary context, and how we can use these values to re-energize communities. Examining how collectivism was imagined and constructed in the 1950s-70s workers' village from a historical perspective is necessary for urban heritage preservation and community revitalization today: how was the collective life reflected in the original design of the workers' village? How was the housing distributed and managed, and did it follow the principles of collectivism? Did the workers/residents indeed live a collective life in their daily use as expected?

COLLECTIVIZATION OF LIVING SPACE

The relationship between the workers' village and the city is determined by the location of the factory, which is usually positioned on the edge of the city or far from it. In the open spaces away from the city centre, the new regime found that they could create better the ideal living space for the new people, establishing new norms of life towards, ultimately, a communist society. The distance of the village from the city makes it difficult for its inhabitants to use the city's infrastructure and social services, and the village was initially designed to provide a wide range of social and collective facilities and spaces, with almost all services available to the inhabitants from birth to death[15]. The close spatial connection between the living and production areas facilitates commuting, while blurring the boundaries between work and rest, production space and living space, making the *factory as home* and *work first, live later* trend[16].

Fig. 1. "Getting organised is boundlessly good, Collective life brings a lot of happiness" from a Great Leap Forward (1958-1961) 大跃进poster, designed by Lu Xingchen, et.al. 1960.5.

In NEC, workers' villages were planned according to the Soviet Big Block planning theory. A village consists of several to dozens of rectangular blocks. The blocks has a strong axis, and the 3-, 4-, 5-storey apartments/dormitories are arranged along the street, with both north-south and east-west directions, and in the middle of the courtyard is a recreational green space. A large number of collective facilities and collective spaces are arranged between different blocks. In taking the example of Tiexi Workers' Village one can read in the *Historical accounts of past events in Tiexi*: "In order to facilitate the life of local residents, a comprehensive large store was built in the area at the same time as the construction of the village. This supporting facility was officially operated in 1953. The store was more than 700 m^2 in total. In the middle is a compound and warehouse, in the east is a grain station, in the west sells vegetables and fish, in the north sells cooked food, and in the south is a restaurant and photo studio. All of the store's businesses are linked to people's lives, and residents can purchase daily necessities here without leaving the village. At that time there were more than 500 salesmen, serving more than 3,400 households around more than 10,000 people"[17]; The post office was established in 1955, is an 800 m^2 of two-story small building, there are more than 50 employees[18]; The first elementary school and the first kindergarten in the village were established in 1955 and 1957 respectively; From 1949 to 1988, there were more than 80 cultural palaces (buildings where performance and movies could be held) in the village... The widely distributed collective facilities provided spatial and functional opportunities for the users (workers/residents) to interact with each other and organize collective activities, and strengthened their sense of identity as a collective when facing the outsiders.

In terms of internal space design, workers' villages widely adopted the Soviet Standard Design approach. The low standards applied in times of economic hardship allow for the sharing of living facilities (such as kitchens and toilets) through the compression of individual space, thus promoting collective lifestyle[19]. Before the urban housing reform (privatization of public housing) in the 1990s, almost all apartment suite in workers' villages were shared by several families, each occupying one or two bedrooms, with shared kitchens, toilets, and corridors. In addition to the family apartments, a more collective type is the single dormitory. While single dormitories do not differ from family apartments in appearance, the internal spatial organization is very different. The dormitory floor plan usually consisted of a wide corridor in the middle and a dozen less than 20 m2 rooms on both sides of the corridor, most of which were bedrooms, with public toilets and public kitchens in every few bedrooms, and some dormitory floors were equipped with activity rooms for study and recreation for the residents of the building. However, as a large number of young singles got married and gave birth in the 1960s, and there was a serious shortage of housing supply, the original single dormitories became family dormitories - one family per bedroom, and the limited interior space could not carry all the family functions, so the private space spilled over, and storage, cooking, and resting were forced to move to the wide corridor. Former activity rooms and even stairwells have been converted into bedrooms for families to live in.

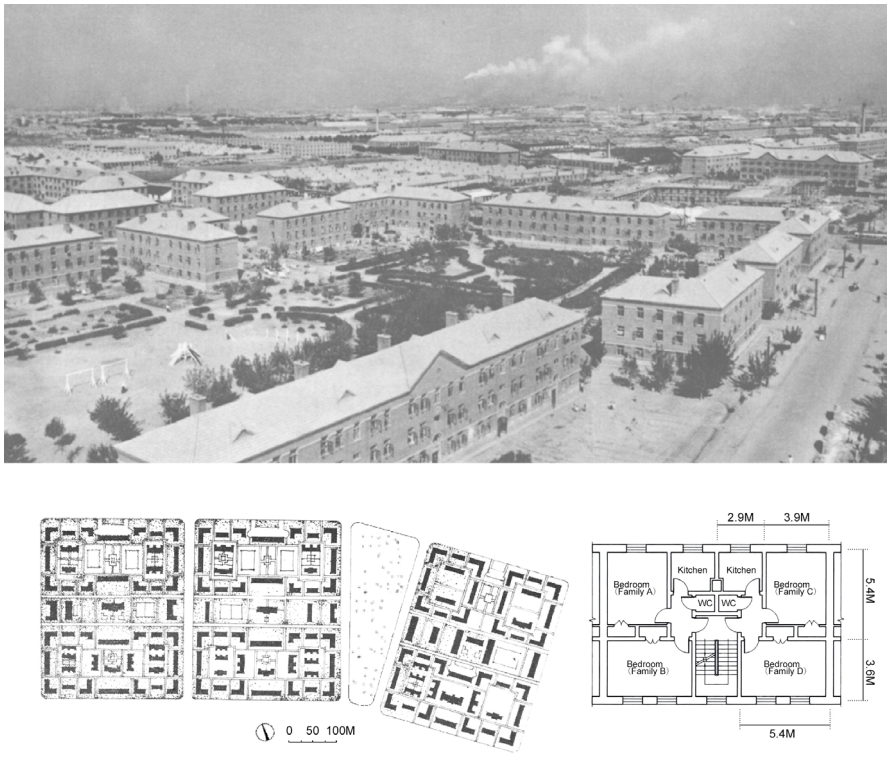

Fig. 2. Tiexi Workers' Village. Top: arial view. Bottom left: residential planning; bottom right: floor plan of a standard apartment, showing supposed one-family suite shared by two families

HOUSING DISTRIBUTION AND ADMINISTRATION

Under the planned economy, housing was regarded as a kind of welfare, rather than a marketable commodity. Housing belonged to the state and residents only had the right of use when they were linked to the factory. The monthly rent was negligible. When the workers' village was just built, the limited number and area of housing could not satisfy everyone's needs, so the model workers and factory leaders were given priority in the allocation of buildings, while others lived in humble temporary bungalows. According to Zhang's recollection[20], (Tiexi Workers' Village) at first only factory cadres, engineers, and model workers were eligible to live there. In the Longfeng Coal Mine workers' village, the only three family apartments were called Model Housings by locals because they were occupied by model workers and their families[21]. Since the early residents' identity, with high self-moral demands and a strong belief in communism and collectivism, some at first refused to accept the brand-new apartments even when they were assigned to them, and offered to give them to colleagues in greater need, or switched the large bedrooms they were assigned to with ones who had larger families. "Li, an eighth-grade caster at the Shenyang Smelter, was allocated a large bedroom in a two-room

suite in Tiexi Workers' Village in 1957. At that time a suite was shared by two families, each one occupying a bedroom. Because his neighbour had a bigger family population but in a small bedroom, Li decided to switch their rooms, and still paid the room fee according to the big room."[22] For workers who were temporarily not assigned housing and who joined the factory later, the cadre of general affairs of their workshop was responsible for negotiating with the real estate section of the factory administration office to apply housing for them, but the process was usually not smooth due to the shortage of housing. The real estate section usually had a list of requests for housing, and when new housing was built or vacancies became available, the workers on the list were assigned housing in order from top to bottom. As for the order of the names on the list, it is not exactly according to the early or late demand for housing, but also accompanied by the comprehensive evaluation of the real estate section and the worker's position, the urgency of the demand, work performance, daily performance and other factors. Meerovich's study[23] of the Soviet Union shows that the housing allocation policy for Soviet citizens, while ostensibly claiming to be progressive and egalitarian, was in fact more than an attempt to integrate workers into "labour-life communities"; it was a shadowy political manipulation. The "scarcity" of housing became a necessary tool in order to match certain better (or worse) accommodations to workers. Being allocated extra "living space" was seen as the best proof of allegiance to the state. In China's factories in the 1950s and 1970s, "allegiance to the state" was manifested in the form of allegiance to factory cadres. In this kind of gesture, personal bond between certain individuals and leaders was formed. Another initiative that brought production and livelihood firmly together was the signing of collective contracts[24] in the 1950s. Through collective contracts, factories proposed production goals to workers, and labour unions proposed benefits (including housing, collective facilities, higher wages, etc.) on behalf of workers for meeting or exceeding the goals, and workers were thus greatly motivated to produce. The state-owned-factories in NEC were the first to sign collective contracts. As the national newspaper Workers' Daily (1953.1.10) described, "the collective contracts in the factories and mines have implemented the policy of integrating production, life, and education into a whole; through the discussion and signing of collective contracts, the leadership and workers have been closely integrated, and the forces of the enterprise have been organized, and, as a result, achievements have been made... One of the achievements was the improvement of collective welfare and working conditions, such as the construction of a new large canteen and new collective dormitories for workers."[25] Theoretically the collective contract approach is in line with the doctrine of the Soviet educator Makarenko. According to him, the collective is not formed spontaneously, but the development of the collective requires "demands and prospects": first the organizer (the factory) puts forward firm demands (production tasks), then there is the support of the activists in the collective (all workers), which becomes the core of the collective (the labour union), then it becomes the common collective demands, and after the demands are fulfilled the prospect (workers' welfare) is then fulfilled[26].

In the day-to-day management of the workers' village, households were organized at different levels of collectives. In Tiexi Workers' Village, for example, the highest management body is the Workers' Village Subdistrict Office, which has a number of residents' committees, each of which is responsible for a block. The residents' committee has a secretary, a women's di-

rector, a security director, a sanitation director, and a mediation director. In this way, each resident was included, and individual interests were intertwined with the interests of others, whether by action or expression, or by receiving criticism and awards, the residents always appeared as a collective. On the other hand, the state communicates its decrees to citizens through grassroots organizations, and ordinary residents have a way to communicate upward. Although grassroots governance in China's cities today has changed somewhat from the way it was 70 years ago, this structure is almost inherited today, when the vast majority of urban residents live in commercial estates.

COLLECTIVISM IN DAILY LIFE

Collectivism in everyday life was mainly realized through organized collective activities and spontaneous neighbourhood interactions. In old days, collective activities were numerous, mainly in the form of political study, collective labour, cultural activities, and sports activities. In Anshan Steelworks, it carried out a wide range of collective activities in its workers' village, including organizing its own sports teams, singing and dancing teams, regularly showing movies in the village, establishing amateur technician schools and holding study classes, etc. In Tiexi Workers' Village, "Sometimes a factory would come to the village to show open-air movies in the compound. Whenever this happened, children would run around as if it were a festival, and adults would make dinner early, and after eating, people would gather in front of the big white cloth with their own small benches."[27] Some villages also keep a record of their activities and establish their own festivals, with a view to foster a collective tradition. A few of the more famous villages also had the task of presenting themselves to the outside world, and by hosting visiting groups from home and abroad, they were able to strengthen the identity of the local population as a whole. During Mao's era, China excelled at mobilizing the masses in the form of "campaigns" to achieve its goals and educate its people. Take the Patriotic Sanitation Campaign in 1952 as an example[28], the following collective activities were carried out in the workers' villages: 1) Propaganda and education: organizing sanitation exhibitions; organizing tours and inspections, and launching propaganda among the residents by means of Q&A. 2) Establishing organizations and training cadres: setting up a set of special organization among the families, such as Patriotic Sanitation Committees, with dedicated leaders in charge, and with sub-teams, such as weed control teams and mosquito eradication teams. 3) Competition: In this way, people's wisdom is mobilized and they actively study ways to improve sanitation. 4) Organizing mutual help: for families who are unable to participate in sanitation activities because they have little children or elders, the committee will organize neighbours to help them. According to the theory of collective action, the key to a collective's ability to pursue its common interests lies in the ability of its members to organize themselves[29], and "educating the individual in and through the collective" is also a principle of communist education[30].

Collectivism based on personal relationships in daily life was reflected in the mutual assistance of neighbours, which was very common in the early workers' village. Whether it was two families living in the same suite, sharing a kitchen and toilet, or neighbours in the same

building or even the same block, village, the mutual penetration of each other's lives was quite serious, which on the one hand the help of neighbours can also solve some small difficulties in reality, and on the other hand, shaped a strong collectivity and made the residents have a sense of belonging. Zhang recalls, "My family lived in (Tiexi Workers' Village) Apartment No.64, together with 58 families, all of whom I knew. At that time, kitchens and toilets were shared by two families, and two families cooked and washed in one kitchen and used one gas meter. At the end of the month, the people who collected the water and electricity bills copied the figures to the people in the building, and each family took turns to collect the water and electricity bills. The water bill is shared equally by each person, and the electricity bill is calculated according to the number of light bulbs in each room. All the families treated each other honestly, there was no under-reporting or concealment... If one forgot to collect the clothes hung outside in the wind or rain or at night, did not have to worry at all, someone would take them back for you."[31] Referring to Ujssin's comments[32] on Soviet collective dormitories, we can similarly consider the Chinese workers' village as a school that creates collective emotions and eradicates selfish indifference, that teaches how to get along with people, how to struggle with oneself, and how to cultivate comradeship, and that is seen as a valuable experience by those who have lived there.

Fig. 3. Collective activities in workers' villages during 1950s-70s. a: legal institution publicity vehicle; b: self-organized newspaper reading group by workers' wives; c: collective cleaning labour; d: gathering and gossip in a summer evening

Fig. 4. Continuation of the collective lifestyle. Left: industrial workers' physical exercise break in a factory, 1950s-70s; right: spontaneous senior citizens' (mainly retired industrial workers) everyday exercise after dinner in their workers' village, 2020

CONCLUSION

New China under the leadership of CCP has rapidly established a socialist system since the 1950s through an all-round imitation of the Soviet model. Collectivism, as the moral principle of the proletariat, was instilled in all people from the very beginning of the country's founding; with Mao's affirmation in August 1958, Urban People's Communes spread throughout the country in only two years, becoming the climax of collectivist life for urban residents; the Great Proletarian Cultural Revolution (1966-76) was the period when Mao expressed collectivism and egalitarianism in his unique way, but the consequences of the ten-year Revolution ran counter to these values; Mao died in 1976, and his successor Deng Xiaoping officially took power two years later. The new leader focused more on the economy than on ideology, and began to implement a new policy of Internal Reform and External Opening. Based on the analysis in this paper, we argue that collectivism in China from the 1950s to the 1970s was a highly domesticated, top-down collectivism. The new regime consciously guided the workers to live a collective life, as evidenced by the village location, residential planning, and housing design. The principles of collectivism and egalitarianism were widely applied in the distribution and management of housing, and residents were absorbed into different levels of collectives. In addition to the large number of officially organized collective activities, the leaders at each level also organized collective mutual aid on their own. The daily neighbourhood interactions necessitated by the limited private space and the overlapping of auxiliary spaces, and the spontaneous acts of help due to the belief in communism are vivid expressions of collectivism at the individual level.

As Triandis asserts[33], China's transition from a planned economy to a market economy was accompanied by a shift from collectivism culture to individualism culture. Older people miss what they see as the good old days of "all for one and one for all" and lament the selfishness and indifference of today's society. They feel a sense of loss over the shortfall of collectivism.

But in fact, just as China has not fully realized the market economy, collectivism has not completely disappeared. In Mao's China, the city was a patchwork of almost self-sufficient unitary communities, whether factories, universities, or the military, which managed their own workers and families both at the workplace and at the place of living, and all the city needed to provide was a place and limited social services. In today's society, a few *Danwei* communities still exist, although they are very different from before, and the vast majority of urban residents live in commercial housing estates that they have purchased, while the slightly better ones are gated communities, from which we can clearly see the role of collectivism in shaping urban space. On the other hand, the grassroots management system in the city seems to have changed even less, and the "paternalistic" governance, layer by layer, reflects the accountability of the government and facilitates the control of the party over the people. If we take into account the ongoing pandemic, with its long history of collectivism education and strict urban management, we seem to understand why China is the only country in the world that can quickly lockdown a city of millions or tens of millions and still maintain a zero-Covid strategy.

The workers' villages in NEC are the most characteristic urban legacy of China's 1950s-70s, which not only once shaped collective life spatially, but also served as the most precious material carriers of the collectivism spirit of the past era. In today's workers' village, there are still a group of old workers living there. Most of them are the second generation of workers' village, who inherited the apartments along with their parents' job, and are full of feelings and strong sense of identification with the factory and village. In their words and behaviours, we can clearly see the brand of collectivism laid down by them. For middle-aged and young people, although the concept of collectivism may seem vague, the education of "collective, teamwork, dedication, and selflessness" from family, school, and society since childhood makes most of them feel the same way, and all these can be linked to the collectivism of 1950s-70s. It can be said that without understanding the history of collectivism and collective life, it is impossible to truly understand the urban space and social governance in China today.

DISCLOSURE STATEMENT

No potential conflict of interest was reported by the author.

NOTES ON CONTRIBUTOR(S)

Yiping Zhang is a PhD candidate in KU Leuven. His research interest mainly lies in urban planning history, industrial heritage, collective spaces, and community regeneration.

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Regenerating Namaacha
History, resiliency, and sustainable urban development of a secondary town in the Maputo Province, Mozambique

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Abstract

The paper presents a study about Namaacha, a small town in the eastern part of the Maputo Province (Mozambique) bordering South Africa and eSwatini, a rich area in terms of natural, built, and cultural heritage, but subjected to a series of socio-economic and environmental fragilities. Research conducted in the framework of the project "Boa_Ma_Nhã, Maputo!" (Polisocial Award 2018) based at Politecnico di Milano allowed to unfold the urban history of Namaacha, to study past and present planning tools, and to investigate the main challenges and potentialities for social, economic, and territorial development of the town, which regard specifically its agro-ecological and food systems, as well as its built and natural heritage. The paper presents the attempt to reconceptualise and set in synergy existing value assets as resiliency drivers, with the aim of leveraging local development through contextually sensitive planning and governance tools in the shape of guidelines, strategic scenarios, and pilot projects. The case-study aims at testing methodologies to approach – in a context-sensitive, and historically-aware perspective – the sustainable regeneration of built and landscape heritage in fragile socio-economic conditions in the Global South.

Keywords

Mozambique, heritage, urban regeneration, sustainable development

How to cite

Frigerio, Alessandro; Buoli, Alice; Montedoro, Laura; "Regenerating Namaacha. History, resiliency, and sustainable urban development of a secondary town in the Maputo Province, Mozambique ". In Carola Hein (ed.), *International Planning History Society Proceedings*, 19th IPHS Conference, City-Space-Transformation, TU Delft, 5 - 6 July, 2022, TU Delft Open, 2022.

DOI: 10.7480/iphs.2022.1.6515

INTRODUCTION

Namaacha is a small town in the eastern part of Maputo Province (Mozambique), whose first modern urban settlement dates to the Portuguese colonial time (around 1850) and originally developed along the road connecting it to Maputo. Thanks to the good climate, its natural amenities, and the proximity to the border, between 1910s and the 1960s Namaacha developed as a tourist destination for Portuguese functionaries and their families. In addition, a series of religious orders and educational institutions were established, together with the renowned sanctuary of *Nossa Senhora de Fátima* (1944) which still retains its importance as a pilgrimage destination. However, after Mozambican independence (1975) the city went through a progressive decline, recently accentuated by the decrease in border commerce and transboundary mobility that moved to other regional border posts.

Namaacha's past, present, and future should be framed in relation to Maputo and its metropolitan dimension to understand its expected urban transformation, in terms of heritage valorisation and potential. Research activities on this have been carried out in the framework of "Boa_Ma_Nhã, Maputo!" project, a research programme funded by the Politecnico di Milano social responsibility initiative (Polisocial Award) and the Italian Agency for Development Cooperation (AICS, Maputo). The project ran between 2019 and 2020 in partnership with the Eduardo Mondlane University (Maputo, Mozambique) (UEM) and other local and international actors. "Boa_Ma_Nhã, Maputo!" involved more than twenty academic staff from four different departments at Politecnico di Milano plus colleagues from the Faculty of Architecture and Planning (FAFP) at UEM in the framework of international cooperation and educational initiatives. The cooperation between the Italian and Mozambican teams was crucial for tuning analytical, strategic, and design tools and perspectives to the local context. The project's multidisciplinary extended team involved local and international experts from many different knowledge fields, such as urban planning, architecture, social sciences, water management, climate studies, energy engineering, agronomy, etc. The main aim of the research initiative was, in fact, to propose a multi- and inter-disciplinary approach to address the development of the growing metropolitan and peri-urban environment of Maputo in an integrated way and considering the interdependencies between internal/transnational migrations, demographic transitions, the increasing scarcity of natural resources, climate risks, natural hazards and local economic patterns (formal and informal). Particular attention was devoted to the Water-Energy-Food (WEF) Nexus, considering the potential evolution of the agriculture sector (backbone economy of the region) and in relation to the whole food system and its multiple environmental, economic, social, and cultural implications[1].

Namaacha was one of the specific focuses of this research project. The study of the available documents and planning tools, the production of analytic cartography, and the research conducted on-site in cooperation with local authorities and stakeholders[2], allowed to unfold the main challenges and potentialities for social, economic, and territorial development of Namaacha, which regard specifically its agro-ecological and food systems, as well as its built (colonial) heritage.

Fig. 1. Namaacha's Plan by Mário de Oliveira, 1948, as redesigned by Diniz (2013).

By reconceptualizing and setting in synergy these value assets as resiliency drivers, the project aimed at leveraging local development and proposed contextually sensitive planning and governance tools in the shape of guidelines, strategic scenarios, and pilot projects for an inclusive and sustainable regeneration of the city. This resulted in the drafting of a local development plan that builds on existing regeneration, entrepreneurial, and educational initiatives, to foster further cooperation projects.

1. NAMAACHA'S URBAN HISTORY

The village of Namaacha has a strategic geographical location. It is nestled on the eastern side of Libombos mountains, about 70-75 km east of the city of Maputo, at an altitude of 500-600 meters with a mild climate. The place takes its name from Lomahacha, the ancient sovereign who ruled the Pequenos Libombos region before the colonial occupation. The kingdom was split into two (Namaacha and Lomaacha) after the treaty of 1869 signed in Pretoria that established Libombos Mountains as Mozambique's border with eSwatini and the Transvaal (South Africa). Thus, once a unique land inhabited by the same ethnic groups, Namaacha's natural landscapes, material culture, built environment and socio-economic system maintain a transboundary dimension. The border made Namaacha play an important role in the transit of people and goods to the neighbouring country and vice versa.

The first modern urban settlement in the area dated to the colonial time and developed along the road to Maputo, according to an orthogonal layout planned to follow the topography of the place. At the beginning of the 1940s, the village had around 1000 inhabitants (30% non-indigenous and 70% indigenous) distributed in scattered houses and relevant facilities were already in place, such as the church, the *Hotel dos Libombos*, a jail, the *Instituto Mousinho de Albuquerque,* and the first

nucleus of the *Instituto João de Deus*. All these buildings still represent a valuable architectural heritage, although part of them is currently under-used or in a state of abandonment[3].

A larger plan was designed in 1948 by Mário de Oliveira (in collaboration with João de Aguiar) for the Colonial Urbanisation Office, with the aim of increasing the population to 3000 inhabitants and turning Namaacha into a "relaxation and tourism resort"[4]. The architects proposed to extend the original grid nucleus with a garden-city layout interpreting the morphological characteristics of the land, with great relevance to the quality of street design, public spaces, and parks, while land-use zoning was arranged to offer the necessary conditions to achieve convenience, comfort, and hygiene and to allow for the construction of isolated housing of an economic nature. Urban design guidelines completed the plan, with clear indications regarding the height of buildings, the dimensions of streets and squares and the proposed public facilities.

The plan wasn't implemented in its entirety, with the public sphere (main square and parks) completely neglected to favour the development of residential areas. However, Oliveira's cultural reading and urban interpretation of local topography and settlement traces are still part of Namaacha's heritage and urban morphology.

The central zone of the village, the object of the 1948 plan, grew till the 1960s-70s and experienced stagnation in the later period, especially in the post-independence, when the role of Namaacha as a tourism destination and educational-religious centre declined. This has been observed also during the fieldwork missions performed by the "Boa_Ma_Nhã, Maputo!" team. Yet, the public and private buildings in this area have the best conditions in terms of infrastructure and services.

After independence and up to now, the city grew spontaneously on the outskirts of the colonial town in peripheral neighbourhoods located in areas with steeply sloping areas downstream of the water lines, without any urbanisation plans or land-use allocation. These areas are inhabited by very low-income people, mostly displaced during the Civil War (1977-1992) and job seekers in the village. Houses are of poor construction and do not have basic infrastructure.

The planning tools currently in force in the area depend on the recent Territorial Planning Law (2007) that reorganised Mozambican planning at all scales, promoting the drafting of plans for all districts and cities in Mozambique. According to the law, Namaacha's development is currently ruled by a Land Use District Plans (PDUT) and an Urban Structure Plan (PEU) at the municipal scale[5]. According to this last planning tool, in force since 2013 (PEUVN), and to the conversations we had with local municipal government representatives, Namaacha, is subjected to a series of fragilities related to its socio-territorial structure, and in particular to:

- The poor quality of habitat and fragmentation of the settlements' structure with negative impacts on mobility and accessibility.
- Unstable water supply with consequences on agriculture, which is practised on a subsistence scale due to lack of proper irrigation infrastructures.
- A weak job market that is forcing young people to migrate elsewhere, either within Mozambique (and towards Maputo in particular), and to South Africa or eSwatini in search

of better opportunities.

- The difficult connections within the district and between Namaacha and other main urban centres in the Province, are hindered by few access roads in poor condition or unpaved.
- Uncontrolled fires occur very often due to local customs in preparing land for cultivation and the lack of local fire brigades.
- Unstable power supply and lack of adequate health facilities.

Due to the limited experience of local authorities in producing plans of this nature, the PEUVN was the result of a collaboration between various public, private, and civil society actors such as the Municipal Council of Vila de Namaacha, the Habitat Development Study Centres at FAPF-UEM and the Andalusian Agency for International Cooperation for Development. The plan highlights the potential of Namaacha in terms of natural resources and vegetation, the presence of waterfalls and the religious heritage to enhance tourism, as well as specialised agricultural development. However, despite including in the planning actions a larger set of landscapes with ecological value, the PEUVN deals with the limits of rational comprehensive land-use indications that don't allow for strategic frameworks to cope with land and resources competition in an integrated way. It is relevant to stress how the expectations for transformation and growth, despite the complex contingencies, overcome the concepts of protection, regeneration and valorisation of existing assets and heritage. Moreover, the lack of trans-scalar (vertical) and cross-border (horizontal) coordination is a critical problem, due to the significant and evident spatial, ecological, and socio-economic correlations setting the metropolitan metabolic flows of Maputo, that intertwine with Namaacha's present and future.

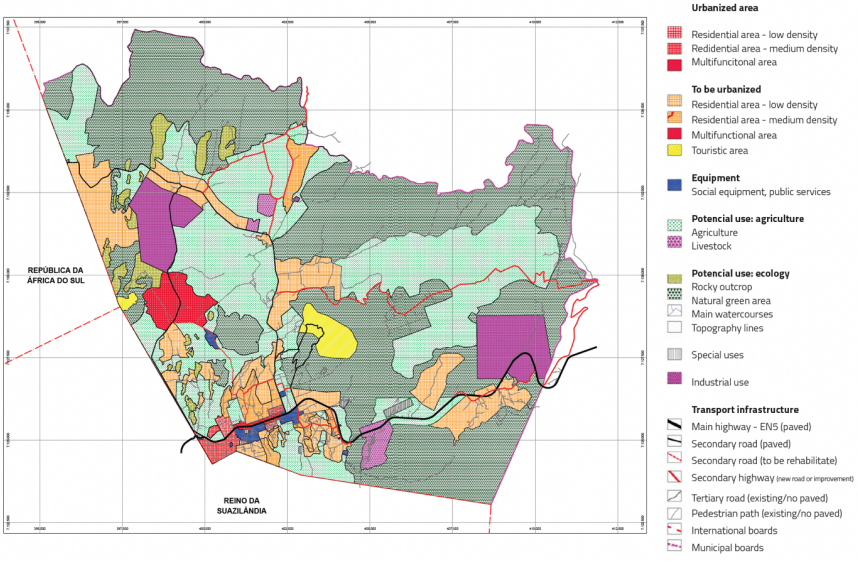

Fig. 2. Namaacha Urban Structure Plan (PEUVN, 2013). Historical settlement in the bottom left corner.

2. A RICH BUILT AND ECOLOGICAL HERITAGE

Namaacha's most relevant resiliency assets, scarcely considered in terms of environmental quality and built/cultural heritage, still have a great value and the potential to support an alternative way to sustainable development.

Built Heritage. In its modern history, Namaacha has been a laboratory for urban design and architecture, with the realisation of high-quality low-rise villas and hotels, as well as religious and educational buildings. Individual houses started to be built in the 1930s and with a peak in the 1950s. Some were for permanent residents, but most of them were for holidays or weekends for wealthy residents of the capital. Religious and educational buildings also started to be built at the end of the 1930s, with the João de Deus Institute as the first Salesian female college opened in Namaacha, followed by the construction of the sanctuary of Our Lady of Fatima and the Mousinho de Albuquerque College in 1944, together with several other buildings for religious orders, Catholic educational institutions, and missions in the same period. The buildings have a mixture of architectural styles that combine colonial, traditional Portuguese, and modernist architecture, resulting in a specific Namaacha's own style expressed by the use of local materials, like the local brown stone cladding parts of the facades, and a characteristic mountainous fashion, with steep roofs that were more aesthetical than functional. After independence, in 1975, the private houses were mostly abandoned and the public buildings nationalised, with only a few of them repurposed and the others left to disrepair. Most of this relevant built heritage is now in critical conditions, being in some cases also occupied by local inhabitants under precarious living conditions. However, the sanctuary is still a relevant pilgrimage destination, and some religious and educational institutions are strengthening their role at the local and provincial level, consolidating the role of the town as a cultural hub. The potential of the abandoned built heritage is high in terms of provision of public services and realisation of attractive tourism facilities.

Ecological Heritage. The geography of the place where Namaacha was settled is rich in terms of ecological assets, thanks to its geology, hydrography, and climate. Water, as a precious resource in Maputo Province, is key for Namaacha's identity. Lebombo Mountains are the source of most of the fresh water running through the province and reaching Maputo, but also supporting the historical Namaacha's mineral water industry, which brings Namaacha's name on the tables of the whole Mozambique. The two mineral water industries in Namaacha are Montemor (founded in 1932) and Agua de Namaacha (in 1940), covering together, in recent years, the 75% of the national water market[6]. The original site of Montemor spring is a relevant heritage site, while the new industries expanded out of the city and represent the most important source of employment in the surroundings. The presence of water as a key element of Namaacha's identity is also linked with the waterfalls (the main natural landmark attracting tourists) and with quality agriculture productions, despite recent droughts compromising them. Namaacha's environment, in fact, is endangered. The nexus relating tree covering, biomass density, biodiversity, and water quantity and quality is well known and Namaacha's landscape is nowadays almost completely deforested and impoverished due to climate change, uncontrolled urbanisation, human behaviours (illegal charcoal production, wildfires, etc.).

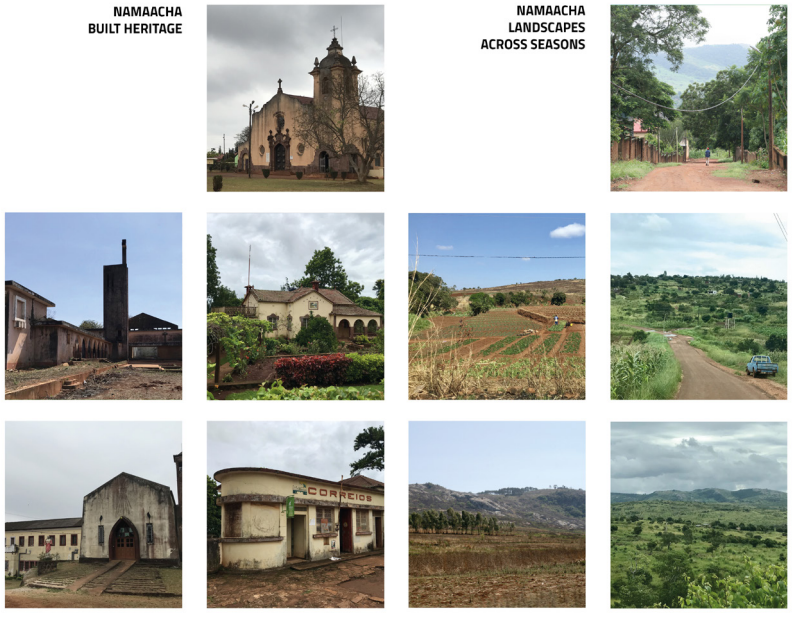

Fig. 3. Namaacha's Built Heritage and Landscapes Survey (2019).

At the beginning of the last century, the Portuguese administration undertook in Namaacha forestation projects for tourism and industrial purposes, continuing until the 1970s, but deforestation has run in the last decades. Only recently, governmental initiatives have been promoted with the aim of assisting local communities to fight deforestation for coal and firewood production or for the construction of houses[7]. Their effect is still limited. The protection and strengthening of local ecological resources and the restoration of lost ones are urgent, both for Namaacha and for the whole Maputo province, both for food and water security.

3. NAMAACHA'S ROLE IN MAPUTO'S METROPOLITAN FRAMEWORK

Investigating Namaacha's current challenges and potentials to exploit existing value assets, the need for a broader, systemic, and trans-scalar research framework emerged. Boa_Ma_Nhã, Maputo! team elaborated a cartographic narrative which unfolds the role of Namaacha in the linear system connecting it with Maputo and Boane, one of the main municipalities in the Maputo Province. This territorial transect, structured by the National Road 2 (EN2) and the Umbeluzi and Impaputo Rivers, is one of the most important trans-scalar infrastructural systems in place: a historical, economic, cultural and ecological resource of extraordinary value for the whole metropolitan system. The transect, spanning barely 80 km perpendicular to the coast and covering

an altitude difference of around 600 m, crosses several different landscapes with rich topography and geology, such as urbanised areas, suburban informal "sprawl", fertile agricultural lands, beautiful natural landscapes, small villages, and industrial excavation sites. The river has shaped the landscape while different cultures, uses, and ecosystems have gathered around its stream.

In the Urbanisation Masterplan of Lourenço Marques designed in 1969, first and last planning effort to draft regional guidelines for the urban development of the current Maputo's metropolitan system, Namaacha's is clearly identified and confirmed as an area with a sensitive landscape devoted to leisure and tourism economies[8].

Since 1987, with the Pequenos Libombos Dam and reservoir becoming operational, the ties between the Maputo-Boane-Namaacha (hereafter MaBoNa) Transect and the town have become even stronger. However, more recent changes in transboundary relationship with eSwatini and the socio-economic context's evolution exemplify the need to re-empower metropolitan rural-urban connections. The current challenges related to the water, food and energy systems at the metropolitan scale, in fact, partially depend on the impoverished performances of the MaBoNa landscape infrastructure, combined with the scarcity of investments and the limited capacity of this system to adapt to climate change and contemporary needs, despite its high potential.

Unfolding the spatial correlations of this framework at the local scale, research conducted on-site thanks to the fruitful interaction with local authorities and partners allowed to unfold the weakness of current planning tools and the main potentialities for social, economic, and territorial development of the Namaacha territory, which regard specifically its agro-ecological and food systems, as well as its vocation as a key destination for religious, cultural, and ecological tourism. A deeper analytical study was developed with a focus on those two correlated systems, that were spatialised in specific cartographies serving as a base to develop a potential urban development scenario.

4. UNDERSTANDING LOCAL DEVELOPMENT POTENTIALS: TOWARDS A SCENARIO FOR NAMAACHA'S FUTURE

Boa_Ma_Nhã, Maputo! team worked on possible complementary strategic planning tools to facilitate horizontal and vertical coordination, with the aim of improving the governance of local development through a more active multi-level dialogue between the actors. This resulted in the outline of a scenario to be intended as a platform of negotiation bringing together endogenous and exogenous energies, resources, skills, and know-hows to overcome the limits and risks of rational-comprehensive (top-down and land-use based) planning approaches. The first draft of this scenario aims at strengthening Namaacha as a centre of quality food production and eco-tourism, whose main frame is represented by an existing 20 km loop of roads starting from the historical town centre and encircling the agricultural and ecological heart of the municipality, a vast food production, naturalistic and leisure zone. The loop connects farms, educational facilities, built and natural heritage spots, crossing rich and beautiful landscapes.

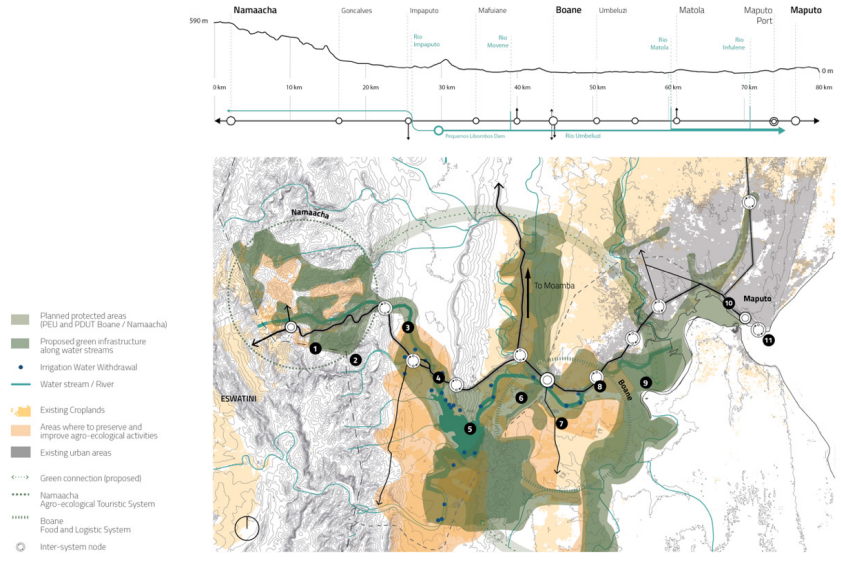

Fig. 4. MaBoNa Transect Scenario. Elaboration by the authors (2020)

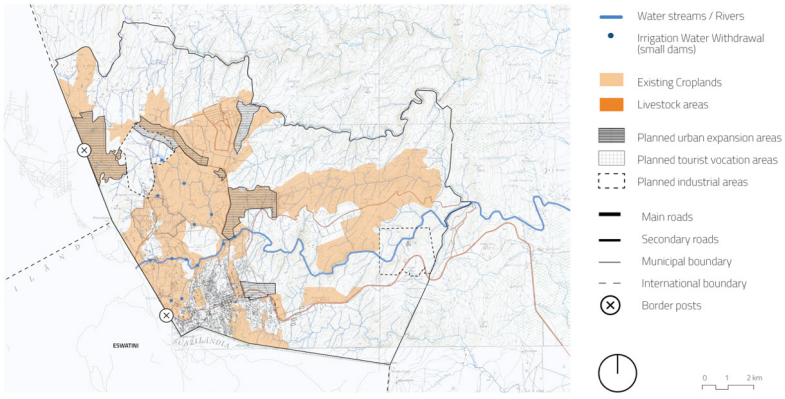

Fig. 5. Land competition in Namaacha: buildable land and agricultural areas. Elaboration by the authors (2020).

Such a clear landscaped-based mental map becoming an operational soft-governance tool supporting knowledge and value chains, could help in supporting policies and projects, also communicating the potential of the place to investors and tourists, as well as to citizens. The scenario aims at promoting active landscape care and protection, contributing to the sustainable socio-economic development of the territory by regenerating existing value assets before implementing new ones.

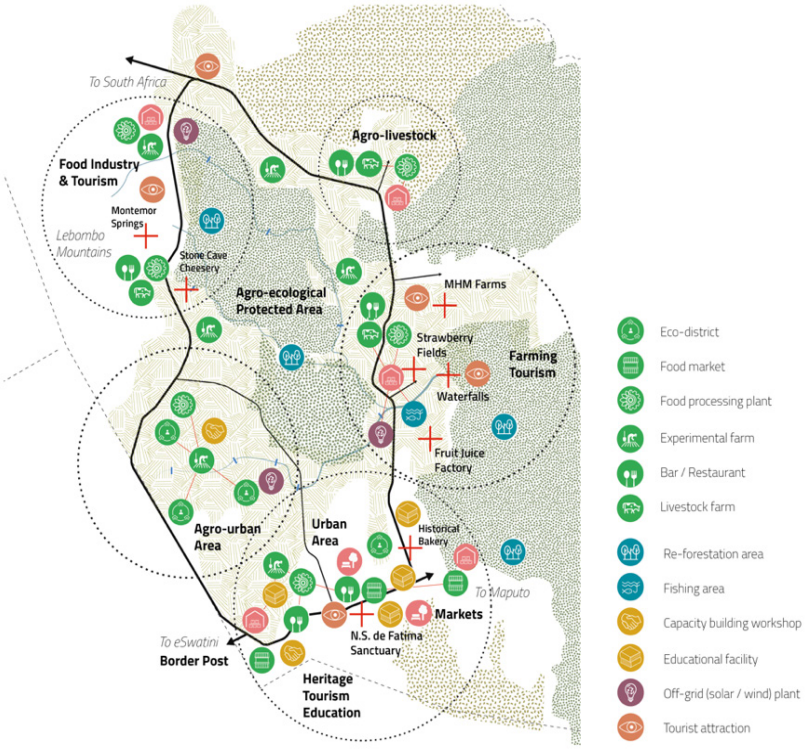

Fig. 6. Namaacha Loop Scenario Vision. Elaboration by the authors (2020)

Agriculture and education: growing the future. Farms and technical agrarian schools are seen as epicentres for the cultivation and transformation of Namaacha's quality products, as well as providers of agro-tourism services and hospitality. Small scale initiatives could progressively trigger larger ones, supporting the development of local entrepreneurship in accordance with local needs and timing. Education and research – as witnessed by a successful ongoing experience of international cooperation supporting the rebirth of the Namaacha Agrarian School – have a key-role in this process and synergies should be promoted between schools and farms to distribute knowledge across the territory, also through learning-by-doing activities and training. Farms and schools will be stimulated through specific guidelines in experimenting integrated WEF-sensitive methodologies and techniques, as well as in diversifying their production and hospitality activities (farming, livestock, dairy and jams/sauces productions, visits, restaurants, cooking schools, etc.)

Natural heritage and beauty. The famous waterfalls, together with the mountainous hidden places and panoramic spots, should be protected and investments must be made in recovering the landscape through sustainable reforestation initiatives and improved water management policies. The quality of water should be one of the Namaacha's main branding assets and the history of Namaacha's mineral water springs should be put in value as cultural and wellness

tourism destination (i.e. museum of water at Montemor springs). Mineral water companies could be crucial partners in supporting Namaacha's local development scenario, both through their direct investments in improving infrastructure and supporting the vision.

Built and cultural heritage. Built heritage should be protected by specific guidelines allowing valorisation and sensitive regeneration. Re-use of the abandoned buildings could offer quality spaces for education, research, or hospitality, supporting a combination of medium and small-scale initiatives. The role of religious and colonial built heritage could also be a matter of a cultural redefinition through projects (i.e. an active museum) and events promoting arts and social engagement as means of re-appropriation. In this perspective, the scenario included a pilot project for the regeneration of the João de Deus Institute as a food research, public services, and tourism hub, in cooperation with the Maputo Diocese and the Namaacha's Municipality[9].

Soft governance and engagement tools. A dedicated soft governance structure (such as an association, an agency or a consortium of public-private stakeholders) should be created to assist the Municipality in preparing a project and related initiatives. This would allow triggering the process envisioned by the scenario, and manage it in its long-term perspective, supporting sustainable growth-oriented enterprises by setting objectives, sharing best-practices and guidelines, facilitating partnerships, and curating branding and communication initiatives. The agency should be based in Namaacha, possibly in the spaces of a refurbished existing building (i.e., the João de Deus Institute or the Namaacha Club). This initiative should also include a digital counterpart: a public website and a stakeholders' platform to engage local actors, citizens and visitors.

The socio-economic impact of the project will be felt across the agribusiness and tourism sectors through the whole supply and value chains and will particularly benefit the lives of women, youth, the unemployed and the underemployed. Although difficult to quantify, the forecast to multiply demand and production both at the micro and medium entrepreneurship level will most certainly have direct and indirect social and economic effects, with employment creation being the most easily recognised impact. The associate training and experience will create a pool of workers that will be better placed to support other enterprises or to start-up new enterprises across the Province and the country, especially allowing young women entrepreneurs to succeed in ways that are not currently available. Mozambican consumers have yet to embrace the "buy-local" concept and one crucial aim of the project is to change this attitude, allowing domestic companies to reach an equal or higher standard than those imported brands, stressing the value of local productions and skills. Moreover, the regeneration of built heritage will support the construction business, also contributing to training skilled workers in terms of sensitive restoration and sustainable and localised building techniques. Taxation gains are another critical area of economic impact, being the governance agency of the project a way to ensure registration and compliance with taxation programs.

The main innovation promoted by the scenario is in the governance process and its relationship with a clear spatialised strategy. Working with the various institutional partners, the project could experiment profitable private-public interactions and partnerships through the

facilitation of experts. The innovative platform of co-design and governance of the project will spread a culture of innovation that will affect the socio-economic environment across scales, processes, and targets.

CONCLUSIONS. HERITAGE AND URBAN REGENERATION IN FRAGILE CONTEXTS

Namaacha's case study is a meaningful example about the expanded notion of heritage in contexts such as the one of reference and more in general in Sub-Saharan African contexts, that should consider post-colonial and transcultural legacies, as well as a combination of built and environmental assets, often not properly valorised or protected. This allows coping with the expected urban sustainable development in terms of building on existing values, that are economic, ecological, social, and cultural. However, this approach of moving towards the future by recognizing the value(s) of the past(s) is still uncommon (or anyway controversial) in the local planning approach, in terms of technical and governance tools, but also considering the political will and civic awareness. The definition of rules and plans to protect local heritage while allowing for its sensitive re-use and re-appropriation is urgent (efforts in this sense in Maputo central areas are facing several challenges). Boa_Ma_Nhã, Maputo! Research through the unprecedented production of cartographic knowledge, visual documentation, and visioning exercises, but more importantly through the direct interaction with local stakeholders and in collaboration with local partners in the academic and international cooperation field, aimed at sensitizing local institutions in this perspective. It can be considered a first step to unveiling a different way of approaching the strategic planning for the resilient transformation of a secondary town of the Global South, in a transcultural context and through a transdisciplinary perspective. It also represented a methodological test about how to approach – in a context-sensitive and historically-aware perspective – the sustainable regeneration of built and landscape heritage in fragile socio-economic conditions. Boa_Ma_Nhã, Maputo! Trans-scalar perspective was key in this exploration: valorising local assets in synergic perspective with a metropolitan system allows to address local vulnerabilities by (re)activating value-chains and metabolic flows that have the power to re-signify heritage and trigger new energies, economies, ideas for a better future.

ACKNOWLEDGEMENTS

The background research on the planning tools and documents presented in this chapter has been facilitated and supported by colleagues at FAPF-UEM, in particular Dr. Elis Mavie, Prof. João Tique and Prof. Carlos Trindade, and with the additional support of Alessia Macchiavello (PhD candidate at Politecnico di Milano) and Nicholas Beloso (MA student at Politecnico di Milano).

DISCLOSURE STATEMENT

No potential conflict of interest was reported by the author.

NOTES ON CONTRIBUTOR(S)

Alessandro Frigerio is an architect, urban and landscape designer, PhD, as well as a post-doctoral research fellow and adjunct professor at Politecnico di Milano. His research and professional activities investigate the processes of sustainable urban development or regeneration within a transcalar and socio-ecological perspective, combining landscape, urban, and architectural design. He has worked in Europe, Africa, and the Middle East, with a special interest in East African urbanisation and urban projects, in cooperation with local authorities and international organisations.

Alice Buoli is an architect and Ph.D. in Territorial Design and Government. She is currently an assistant professor in Urban Design and Planning and a tutor for the PhD program in Urban Planning, Design and Policy (UPDP) at the Department of Architecture and Urban Studies, Politecnico di Milano. Her academic and professional experience combines urban research within the Euro-Mediterranean context, African urbanism, borderland studies, creative practice research, and editorial and curatorial activities. Over the past years, she was involved in different international projects and institutions.

Laura Montedoro is Full Professor of Urban Design and Urban Planning at Politecnico di Milano. Since 2011, she has been involved in research on urbanisation in the countries of the Global South within the context of international cooperation, with particular attention to the African cities. She is co-director of the "Design for development. Architecture, Urban Planning, and Heritage in the Global South" Master's program and a member of the scientific committee of the PIMI Project – the Master's and Doctoral training project funded by the Italian Agency for Development Cooperation in Maputo and the Faculty of Architecture of Mondlane University in Maputo, Mozambique.

ENDNOTES

1. "Boa_Ma_Nhã, Maputo!" project is presented in detail in two books that illustrate the studies and findings at the territorial scale and are the main references for this paper: Montedoro Laura, Buoli, Alice, Frigerio, Alessandro. *Towards a Metropolitan Vision for the Maputo Province. An agenda for an integrated and sustainable territorial development in the South of Mozambique*. Santarcangelo di Romagna: Maggioli, 2020. And: Montedoro Laura, Buoli, Alice, Frigerio, Alessandro (eds). *Territorial Development and Water-Energy-Food Nexus in the Global South. A Study for the Maputo Province, Mozambique.* Chalm: Springer, 2022.
1. During the project the research team performed two fieldwork missions during dry and rainy season, which allowed to observe and document Namaacha's natural and built environment, as well as interact with local authorities, NGOs and agricultural sector. Studies, findings, and proposals about Namaacha are still unpublished and can be referred to Boa_Ma_Nhã, Maputo! *Assessment Report - Planning Tools Report - Polisocial Development Plan,* 2020.
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1. This and other pilot projects are illustrated in Boa_Ma_Nhã, Maputo! *Polisocial Development Plan*. Milan: Politecnico di Milano, 2020c. The scenario for the regeneration of the João de Deus Institute is presented in detail in Hamard, Francesco (2020). "Between past and present. The João De Deus Institute". MA Thesis - School of Architecture, Urban Planning, Engineering and Construction, AUIC. Politecnico di Milano, A.Y. 2019-2020. Supervisor: Laura Montedoro. Co-supervisors: Alessandro Frigerio and Alice Buoli

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Fig. 3 Photo survey by the authors (2019).

Fig. 4 Montedoro Laura, Buoli, Alice, Frigerio, Alessandro. *Towards a Metropolitan Vision for the Maputo Province. An agenda for an integrated and sustainable territorial development in the South of Mozambique*. Santarcangelo di Romagna: Maggioli, 2020.

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Exporting the Design of an Architect Genius
Alvar Aalto's Helsinki City Centre Plan 1964

Laura Kolbe
University of Helsinki

Abstract

In 1964-1969, a special and large Helsinki exhibition toured in Europe, as a part of city branding efforts during the 60s. The main message of the exhibition was related to the change of urban structure and how Nordic values could be base for a new, sustainable urban design. The exhibition included, among other things, scale models, photographs, items, and maps, as well as an extensive text section. The main element on the exhibition was architect Alvar Aalto's recent plan to rebuild the city center of Helsinki (1964). This monumental plan pictured the principal tools for Helsinki's future cultural and economic development, including new types of transport solutions and a new kind of understanding of urban culture. In my presentation, I will discuss the role of the Helsinki City Centre Plan for the European understanding of resilient layers of Nordic urban transformation and its reception abroad. The Aalto Plan (and the architect himself) played a central role in Helsinki's place branding during 1960s and 1970s. During these decades Helsinki-exhibition, planned by designer Tapio Wirkkala, promoted the Nordic understanding of city's future trends. The exhibition was presented in 1965-69 in Vienna, Düsseldorf, Lübeck, Hamburg, Nürnberg, Nancy, Rouen, Cannes, Strasbourg, Moskov, London and Paris. The City Centre Plan became one of Aalto's most extensive projects, on which he worked for over a decade. The plan is a coherent example of Western modernistic urban vision on 1950s and 1960s. The wish was to shape a dignified urban centre for the capital of republican Finland and a comprehensive approach dominated. The surroundings of the Parliament building and the residential neighbourhoods on the one hand and the growing traffic flows and their parking requirements on the other could both be harmoniously accommodated. In Aalto's plan, pedestrian movement, vehicle traffic and rail transport were on different levels: ground level was for pedestrians. On the shores of the central waterway (Töölönlahti Bay) Aalto envisaged a series of public buildings, which were elegantly mirrored in the shoreline. The urban transformation in Helsinki never happened along the lines of Aalto's centre plan even though Aalto produced several improved versions. In the course of time the plans were rejected, as new ideals of resilient urban development took place.

Keywords

general plan, urban exhibition, city branding, Alvar Aalto, capital city transformation

How to cite

Kolbe, Laura; “Exporting the Design of an Architect Genius: Alvar Aalto’s Helsinki City Centre Plan 1964”. In Carola Hein (ed.), *International Planning History Society Proceedings*, 19th IPHS Conference, City-Space-Transformation, TU Delft, 5 - 6 July, 2022, TU Delft Open, 2022.

5 JULY: SESSION 2.2

CROSSING BORDERS.

Chairs: Helene Bihlmaier, Luca Csepely-Knorr

Developing an Education for the Post-War

Brenda Colvin, Jacqueline Tyrwhitt and the School of Planning and Research for National Development (SPRND)

Luca Csepely-Knorr
Manchester School of Architecture

Abstract

This paper will discuss the collaboration of British designers Brenda Colvin (1897-1981) and Jacqueline Tyrwhitt (1905-1983) during the second World War, to highlight their role in carrying, creating and re-defining ideas and understandings in planning (both urban and rural) and landscape architecture. Colvin and Tyrwhitt are two relatively well-known British professionals. Brenda Colvin was a landscape architect, who run a highly successful design practice, being responsible for schemes from the scale of gardens to power stations and New Towns. Her practice, now called Colvin and Moggridge is going to celebrate the 100th anniversary of its foundation in 2022. 70 years ago, in 1951, Colvin was elected as the first female president of the Institute of Landscape Architects, and she played a key role in the establishment and development of the International Federation of Landscape Architects. Jacqueline Tyrwhitt was also an active landscape architect, but is better known for her work as a town planner, journalist, editor and educator. She was at the centre of CIAM's transnational network, worked at the University of Toronto and at the Harvard Graduate School of Design, and is often praised for her contribution to transnational urbanism. During the second world war Tyrwhitt run correspondence and completion courses to train planners at the School of Planning and Research for National Development (SPRND). The course aimed to train skilled professionals who can undertake the projects required by the reconstruction of Britain after the War and had a profane impact on future professionals as well as the future of the planning profession itself. Less well is known however, that she also organised a postgraduate evening course with Colvin through the SPRND where they taught landscape architecture – a profession they both practiced, and saw as key for the future of both urban and rural planning projects. They believed, that training planners and architects in landscape architecture is key in creating healthy and resilient environments after the war. The course built on their shared professional enthusiasm and previous collaborations as well as Colvin's teaching experience and work with the Institute of Landscape Architects. While Colvin's and Tyrwhitt's work as individuals has been researched before, this paper will focus on their collaboration and co-produced publications and syllabuses to argue that this period had not just a long-lasting impact on their own work,

but through their work as educators, professional advocates and active members of international networks also on the broader professional development of planning and landscape architecture in the second half of the 20th Century.

Keywords

landscape architecture, international networks, education, reconstruction, urban and rural planning

How to cite

Csepely-Knorr, Luca; "Developing an Education for the Post-War: Brenda Colvin, Jacqueline Tyrwhitt and the School of Planning and Research for National Development (SPRND)". In Carola Hein (ed.), *International Planning History Society Proceedings*, 19th IPHS Conference, City-Space-Transformation, TU Delft, 5 - 6 July, 2022, TU Delft Open, 2022.

Arturo Soria and the Compañía Madrileña de Urbanización

Global aspirations and local challenges as driving forces for the diffusion of urban planning theory

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The University of Hong Kong

Abstract

Arturo Soria first described the Ciudad Lineal in 1882 as an urban model generated along a "backbone" formed by railway and other infrastructures where city and countryside would meet. His linear city -500 meters- wide and unlimited in length- would release urban congestion and channel the urban growth of big metropolises of the world, connecting cities such as "Cadiz, St. Petersburg, Brussels or Beijing". Before becoming an urban planner, Soria was a politician and, above all, an audacious entrepreneur with philanthropic aims for a 19th century Spanish bourgeois. In 1894 he created the Compañía Madrileña de Urbanización (CMU) for the implementation of his Ciudad Lineal in Madrid as well as other businesses such as railway lines or water and electricity supply. From that moment on, his local enterprise started to develop a high degree of definition regarding funding methods, infrastructures, topographic and housing studies, and, above all, its railway and tram lines. The CMU participated in numerous international conferences on Urban Planning during the first decades of the 20th century as well as organized its own reunions in Madrid. Through the publication of the Ciudad Lineal Magazine (1897-1932) -first magazine in the world specialized in urban planning- the CMU advertised intensively its real estate business and other construction-related companies, but also became a key diffusor of different urban planning trends and ideas from all over the world in Spanish. Since its conception, Soria's project has been the site of diverse conflicts, both in its theoretical transmission internationally as well as in its implementation as a new town around Madrid. Ideas of city/countryside, center/periphery, socialist/liberal urban planning, public/private space, the morals of capitalism/Catholicism, upper/lower classes, new technologies/tradition, or different forms of transportation have accompanied its evolution throughout the 20th century. However, History and Theory of Urbanism has generally approached Soria's project from a reductionist perspective, focusing on its linear morphology and disregarding its multifaceted nature. This paper presents the challenge of triangulating Soria's theoretical thinking on linear planning in all its dimensions, the international spread and interpretations of the Ciudad Lineal as an urban model in the first half of the 20th century, and the specific reality of urban Madrid and its social phenomena within a global context.

Through the study of the continuities and discontinuities in the promotion of Soria´s ideas and businesses in the early 20th century, the goal of this research is to better understand the transfer processes of urban planning theory in its early stages on a meta level, taking into consideration global and local factors, as well as the roles of capitalist investment, changing regulatory regimes and social contestations.

Keywords

Urban planning theory diffusion, History of ideas, Knowledge transfer, Global capitalism, Linear planning

How to cite

Caro Serrano, Diego Javier; "Arturo Soria and the Compañía Madrileña de Urbanización: Global aspirations and local challenges as driving forces for the diffusion of urban planning theory". In Carola Hein (ed.), *International Planning History Society Proceedings*, 19th IPHS Conference, City-Space-Transformation, TU Delft, 5 - 6 July, 2022, TU Delft Open, 2022.

How the History of Planning Became Part of Planning

Early Town Planning Manuals as Transfer Media of Historical Accounts

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Abstract

Diverse historical accounts as integral parts of planning concepts and ideas have been put in circulation since the close of the nineteenth century. With the establishment of an independent British town planning literature and the rise of English as lingua franca among the professionalizing discourse, exemplary models and historical narratives were increasingly discussed on an international level. The release of seminal books, the newly founded Town Planning Review, and personal interactions at conferences and exhibitions in Berlin, Düsseldorf, and London led to the culmination of this process around 1909/1910. This remarkable knowledge exchange eventually achieved a global impact and resulted in a canonization of historical narratives in town planning literature. This paper examines diverse historical accounts in early town planning literature with a particular focus on pioneering German and British manuals. First of all, it traces the emergence and increase of various uses of history in the prelude to the decisive juncture of 1909/1910. It then compares these texts with coeval writings and analyses their perception in the contemporary town planning discourse. The paper finally discusses, to what extent the debate on history mirrored or even informed the formation process of modern town planning as an academic subject and profession.

Keywords

town planning manuals, knowledge transfer, Germany, Great Britain, early twentieth century

How to cite

Bihlmaier, Helene; "How the History of Planning Became Part of Planning. Early Town Planning Manuals as Transfer Media of Historical Accounts". In Carola Hein (ed.), *International Planning History Society Proceedings*, 19th IPHS Conference, City-Space-Transformation, TU Delft, 5 - 6 July, 2022, TU Delft Open, 2022.

Publishing Directorate of Istanbul Municipality
An Actor in the Transfer of Planning Ideas

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Abstract

The beginning of urban planning in Turkey can be dated to the second half of the 19th century. In this early phase, urbanism was mostly considered as a technical and administrative expertise and the planning works were mainly concerned with the regulation of the urban fabric and the construction of transport and hygiene infrastructure. The establishment of the first municipality in 1855 marks a decisive point in this era, making Istanbul the center of Ottoman experimentation in urbanism. However, the establishment of the Republic in 1923 and the transfer of the capital city to Ankara drove Istanbul in a period of recession until its regeneration in 1950's. In the Early Republican era, publishing became an important branch of activity for the municipality of Istanbul. Especially during the mayorship of Emin Erkul, the municipality established a directorate of statistics and publications in order to organize publishing activities, to work for the foundation of a special library and archive and to conduct research in the urban field. In 1924, the municipality began to publish a journal, -Istanbul Şehremaneti Mecmuası-, in which discussions about problems of urbanism and translations from European theoretical works took place along with news and announcement about the city. The municipality supported also the translation of books about urbanism. The mayor Emin Erkul himself, - a medical doctor by formation- translated two books and had them printed in the printing house of the Municipality. This paper aims to discuss the role of Istanbul Municipality's Directorate of Publishing as a mediator in the dissemination of planning ideas in Turkey. Through a survey of the journal of the municipality and research in the archives of the municipal library which is still active today, it intends to discuss the mechanisms of transfer and diffusion, the actors and their networks in this process, and the choice of texts or books to translate in order to understand their impact in the transformation of the urbanism studies in Turkey.

Keywords

diffusion of planning ideas, knowledge transfer, urbanism in Turkey

How to cite

Cephanecigil, Gul; "Publishing Directorate of Istanbul Municipality: An Actor in the Transfer of Planning Ideas (Panel Session: Early Carriers of Town Planning Ideas)". In Carola Hein (ed.), *International Planning History Society Proceedings*, 19th IPHS Conference, City-Space-Transformation, TU Delft, 5 - 6 July, 2022, TU Delft Open, 2022.

5 JULY: SESSION 2.3

RETHINKING MODERNISATION.

Chair: Nuran Gulersoy

The Effects of Modernization Movements in the 19th Century to the Transformation of Beyoğlu-İstiklal Street

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Abstract

Urban development in İstanbul that preserved its cosmopolitan structure with an increasing population during the 19th century was under the effects of Westernization process such as administrative reforms, comprehensive urban legislation, and economic innovations. As a consequence of those reforms the urban pattern of the city also went through essential transformations and the city faced a set of problems such as the requirement of the housing and infrastructure services and reduction of vulnerability of the urban texture to disasters like fires and earthquakes. İstiklal Street (named Grande Rue de Pera or Cadde-i Kebir) that was a unique place at the beginning of the urban development of Beyoğlu (Pera) have been among the settlements most influenced by these problems. İstiklal Street, which is still one of the most important elements of İstanbul's urban identity continued its development correspondingly to the growth of Galata and Pera, became a reflection of the European lifestyle in the second half of the 19th century as a commercial, cultural and service-oriented center. There were two principal reasons for this. First, the region became a central and administrative focal point because of the embassies of the European States that were located on and around İstiklal Street. The second was the other urban facilities such as cafes/restaurants, shops, banks, hotels, theatres, parks/gardens and new transport alternatives (tunnel and tram) that contributed to the European and cosmopolitan character of Pera. In this context, this study aims to examine the functional and spatial transformation process of İstiklal Street and surroundings through the 19th century and the beginning of the 20th century using the methods integrated to Geographic Information Systems (GIS). GIS which is a useful tool with the abilities to analyse, visualise and manage the information has been used to understand the transformed urban space through old city maps dated 19th century and the beginning of the 20th century. The maps of G. d'Ostoya (1858-1860), R. Huber (1887-1891) and Charles E. Goad (1904-1906) are the documents used in this respect. Those maps contain a detailed depiction of urban pattern such as buildings, roads, open and green spaces. Although they have common characteristics, there are other unique elements in each map about the context of urban texture. For instance, the Ostoya Map contains details about the building material, but the Huber Map includes a

stronger emphasis on the functions of buildings. On the other hand, the Goad Map is a more comprehensive document in terms of both building material and functional classification. Urban changes have been the subject of a large number of academic studies, but the capability of GIS have generally been neglected. In this regard, GIS was an important tool for the method of this paper which included two main steps. The first was a literature review regarding the situation of the İstiklal Street and surroundings in the 19th century. On the other hand the second step involved the process of identifying changes made to the urban pattern through the use of old maps with GIS methods in the ArcMap interface. In this step, the maps of G. d'Ostoya, R. Huber, and Charles E. Goad were coordinated at first, and then the elements of the urban fabric were transformed into vector data using ArcMap 7.1 software as well. Thus, it was possible to create thematic maps for these three documents and compare them with each other. As a consequence, the socio-economical and physical transformation of urban space is determined, and conclusions are drawn about how İstiklal Street and surroundings were transformed in the 19th century and the beginning of the 20th century.

Keywords

modernization, urban development, transformation, historic urban fabric, geographic information systems, İstanbul

How to cite

Özbay Kınacı, Merve; Zeren Gülersoy, Nuran; "Publishing Directorate of Istanbul Municipality: An Actor in the Transfer of Planning Ideas". In Carola Hein (ed.), *International Planning History Society Proceedings*, 19th IPHS Conference, City-Space-Transformation, TU Delft, 5 - 6 July, 2022, TU Delft Open, 2022.

Two Different Scenarios of Urban Modernization

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Abstract

Tel Aviv-Jaffa and Jerusalem, the two major cities of the present State of Israel, have been subjected to the same modernizing forces since the 19th century: both cities have been affected by the impact of the industrial revolution under Ottoman rule, by colonial development during the British Mandate (1917-1948), and by the policies of Israeli State; both cities have experienced expansion beyond a traditional core, Jewish immigration and emergence of Jewish neighborhoods, the Modern Movement development in the 1920-30, application of Garden City ideas by planners such as Patrick Geddes and Richard Kauffmann, war damage and destruction, 'nation-building' projects in 1960-70, the discovery architectural renovation and conservation, and, recently, the aggressive commercial transformations. Similar such pairs could be pointed out, e.g. Rabat vs. Casablanca, or New Delhi vs. Mumbai, or, in the non-colonial context, Edinburgh vs. Glasgow, and Moscow vs. St. Petersburg. However, in spite of the presence of similar forces, the two cities did not respond to these in an identical way, producing rather two different scenarios of modernization, and two different patterns of urban development. Within Israel, Tel Aviv has become an icon of brash modernity, dynamism and personal freedom, Jerusalem – a national and spiritual capital, centre of intellectual life and at the same time the focus of religious and national conflict. Differentiation may be explained by the different geographic position, the weight of pre-modern heritage, colonial manipulation (not un-similar to the case of Rabat/Casablanca or New-Delhi/Calcutta), and the difference in Jewish-Arab power relations. These factors do not sum up the meaning of the phenomenon. A more fundamental way to interpret the different evolution of the two cities is, perhaps, to regard it as a product of a dialectical process: the interaction between 'modernity' and 'tradition', the two terms standing for opposing ethical positions. The Modernity-Tradition dichotomy may have been involved with an array of other dichotomies or conflicts - West-East, religious-secular, ethnic and national differences - but it is not reducible to any of these. This means regarding the problem of modernity as a universal ethical dilemma and taking the urban scene as an expression to society's response to this dilemma. The various protagonists' stance towards modernity is, in a sense, the 'knowledge' encoded in urban landscapes. According to this reading, the evolution of the townscapes of Tel-Aviv and Jerusalem represents a different balance between modernity and tradition sentiments. One example that could illustrate this is different objects of the major architectural conservation projects in the two cities: the Modernist, so-called White City of Tel-Aviv (now a World Heritage Site declared by UNESCO); and the conservation of the Old, intramural city, with its pre-modern traditional townscape, in Jerusalem. The paper proposes to reevaluate the history of the process of ur-

ban modernization in the two cities, Tel-Aviv and Jerusalem, and follows the reflection of this process in the physical fabric of the city. The paper will point out a few specific case-studies, such as the Geddes and Kauffmann schemes, renovation projects, recent interventions and transformations, and nowadays challenges.

Keywords

Urban modernization, Renovation, Modernity, Tel Aviv and Jerusalem

How to cite

Epstein-Pliouchtch, Marina; "Two Different Scenarios of Urban Modernization". In Carola Hein (ed.), *International Planning History Society Proceedings*, 19th IPHS Conference, City-Space-Transformation, TU Delft, 5 - 6 July, 2022, TU Delft Open, 2022.

A psychologist comes to town
The work of Adolph Oscar Oeser in defining community in 1950s Prahran, Melbourne

Marco Amati, Rod Buchanan
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University of Melbourne

Abstract

At the end of the Second World War, Australian cities were the beneficiaries of waves of immigration which defined the character of the Australian urban experience for the latter part of the 20th century. Yet, this influx of new immigrants was accompanied by anxiety about the long term geopolitical and community impact of this demographic shift. In 1949 the Australian National Research Council was asked by UNESCO to undertake an urban and community study based on a hypothesis that 'war begins in the minds of men'. Leading this study was the inaugural head of the psychology department at the University of Melbourne Adolph Oscar Oeser (1904-1983). A multilingual polymath from South Africa, Oeser moved to the UK came into contact with architecture and Walter Gropius at Dartington Hall in the late 1930s and worked as an intelligence officer at Bletchley Park in the early 1940s before emigrating to Australia. Armed with the latest methods from social psychology and statistics he teamed up with the head of architecture, Professor Brian Lewis to survey the inner city and rapidly changing suburb of Prahran in the 1950s. The objective of this paper is to review and analyse the disciplinary negotiations between social psychology, sociology and urban planning as these two influential figures in their respective fields sought to define the idea of community. Both urban planning and social psychology had gained considerably in prominence as a result of the Second World War. Unfolding at a critical moment in Australia's urban history and drawing on archival works in Melbourne, the paper will use this as a case study to demonstrate how psychology shaped planning at this time. As a discipline engaged in making decisions about the future and anticipating individuals' reactions, planning has been variously affected by scientific advances throughout the twentieth century. Yet, this transfer of knowledge has always been asymmetric with planning, as the newer discipline, absorbing disciplinary practices from other areas. Urban planning and social psychology were linked in time and space for a brief period, however with the increasing use of smart systems and cognitive architecture it is timely to reconsider the historical role of this historical interchange.

Keywords

social psychology, sociology, community planning

How to cite
Amati, Marco; Buchanan, Rod, "A psychologist comes to town: The work of Adolph Oscar Oeser in defining community in 1950s Prahran, Melbourne". In Carola Hein (ed.), *International Planning History Society Proceedings*, 19th IPHS Conference, City-Space-Transformation, TU Delft, 5 - 6 July, 2022, TU Delft Open, 2022.

Research on Spatial Transformation and Reusing Strategy of Historic Urban Landscape under Cultural Tourism Guidance

Take Harbin Old Port Area as an Example

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Abstract

Under the background of urban development characteristic changes from incremental construction to stock renewal, many resource-based cities in northeast China have faced such problems as spatial degradation, cultural fracture, and idle heritage. Therefore, this study takes the Harbin old port area as an example. The utilization mode of cultural tourism is determined through the port's historical development analysis and heritage value evaluation. Based on this, the spatial transformation and resilient planning of the old port area can be completed, while the vitality of heritage and development of the city can be stimulated. The research mainly includes three stages. First of all, it analyses the development characteristics of the Shipping Culture by dividing four historic layering stages, so the relevant historic urban landscape elements are extracted and divided into types. Then, the evaluation system of heritage value and reuse potential is established, and the value grade and remodel degree of landscape elements are determined. Finally, according to the current characteristics of elements at each level, different corresponding development modes are matched. Based on the supply of tourism products, the port is also activated through the reconstruction of the tourism system. Then realize the balanced development goals of heritage protection and utilization and urban space transformation.

Keywords

Historic Urban Landscape, transformation of urban heritage space, the evaluation systems of heritage resource value and reuse potential, cultural tourism, Harbin old port area

How to cite

Zhang, Huan; Zhao Zhiqing; "Research on Spatial Transformation and Reusing Strategy of Historic Urban Landscape under Cultural Tourism Guidance ——Take Harbin Old Port Area as an Example". In Carola

Hein (ed.), *International Planning History Society Proceedings*, 19th IPHS Conference, City-Space-Transformation, TU Delft, 5 - 6 July, 2022, TU Delft Open, 2022.

5 JULY: SESSION 2.4

PLANNING FLOWS.

Chair: Ian Morley

Technical Assistance of the Soviet Specialists to China on Urban Planning in 1949-1959

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Abstract

A highlight of the urban planning activities in the early days of the People's Republic of China was the massive number of professional Soviet specialists sent to technically assist China with urban planning. This was also a unique phenomenon in the international urban planning sector. More than forty Soviet specialists, who could be categorized into four series, were sent to China over a 10-year period to provide technical assistance, commencing from the arrival of the first series of Soviet municipal engineering specialists in August 1949 to the return of the last series of specialists in May 1959. By virtue of the technical assistance of the Soviet planners China managed to learn from Soviet planning theory in its entirety and developed urban reconstruction & expansion plans for a number of existing megacities as well as a number of important emerging industrial cities. Furthermore, thanks to the Soviet specialists, China was able to train and acquire a multitude of first-generation urban planners of its own who instilled into modern Chinese planning model a "cultural gene" which, originating primarily from the Soviet model, characterized socialist urban planning.

Keywords

China, Soviet Union, Urban planning theory, Socialist urban planning.

How to cite

Li, Hao; "Technical Assistance of the Soviet Specialists to China on Urban Planning in 1949-1959". In Carola Hein (ed.), *International Planning History Society Proceedings*, 19th IPHS Conference, City-Space-Transformation, TU Delft, 5 - 6 July, 2022, TU Delft Open, 2022.

DOI: 10.7480/iphs.2022.1.6440

1. INTRODUCTION

A highlight of the urban planning activities in the infant days of the People's Republic of China was the massive number of professional Soviet urban planners sent to technically assist China with urban planning on a full scale. Due to the technical instructions of the Soviet professionals, Soviet planning theory was able to be spread broadly across China. In the meantime, as China learned from the Soviet Union in many domains, e.g. politics, economy, culture and education, a lopsided general social tendency was initiated in China which resulted in a rather systematic and in-depth investigation of Soviet planning theory. From the perspective of international urban planning, it was a unique phenomenon that the urban planning ideas of one world power should be communicated to another in its entirety, occupying a dominant place within a rather short time and bringing a far-reaching, profound impact thereafter. The paper introduced an investigation of historical assistance from the professional Soviet planners not only in order for the Chinese urban planning sector to accumulate experience and seek technical improvements, but also to look culturally deeper into what science, with its fundamental theory and rationales, underlies modern Chinese urban planning activities. Therefore, the paper has a vital academic importance to diversifying and supplementing the study of historical international urban planning.

Considering the worsening Sino-Soviet ties in 1960, China turned in whole to Western urban planning theory from the 1978 introduction of the Reform & Opening-up policy. This, in addition to the skeptical attitude of the international community to socialist institutions after the breakup of the Soviet Union, Soviet planning theory and the one-time assistance of the Soviet Union to China has long been a sensitive topic rarely dealt with, let alone research and theoretical findings on the history. Only on some commemorative occasions, e.g. the 50th or 60th Anniversary of the Proclamation of the New China, would a handful of retired elderly specialists recall and recollect the history. As academic entities studying the history and theory of Chinese urban planning germinate and come into existence in recent years, academia is developing an increasing interest in the topic of the Soviet planning specialists.[1] Accordingly, there have been some achievements. Li Baihao et al. investigated the sites, layouts and plans of 156 significant projects built in the 1950s with a great deal of assistance of the Soviet specialists.[2] Huang Li studied the 1949-1965 historical change of modern Chinese urban planning, i.e. from pre-PRC modern laissez-faire policy, to the entire replication of the Soviet model, and then to the development of and reflection on the independent Chinese model.[3] Zhao Chen et al. thought back on the entire history of the application of the Soviet model.[4] Li Yang conducted an analysis of how the Soviet factors influenced the planning case of Beijing in the 1950s.[5] Hou Li compared how the Soviet model influenced the urban planning cases of Beijing and Shanghai in the 1950s.[6] Xu Hao and Li Baihao investigated the theoretical and empirical divide between the Soviet model and the Western model in 1949-1952 to explicate the logos underlying a paradigm shift on the basis of "the replacement of the old institution with the new".[7] In spite of the efforts, historical research in this field remains fairly inadequate and further in-depth exploration is urgently needed.

The author of the paper has been occupied in research on Chinese urban planning in the 1950s. Earlier, the preliminary study of the planning history of eight emerging important industrial cities dealt with the technical assistance of the Soviet planners.[8] Considering the

crucial leading role of the soviet planners in the then Chinese urban planning activities, the author intends to conduct a comparatively systematic thematic study based on an extensive consultation of the relevant original archives as well as an in-depth interview with a number of people once involved in the planning activities. The study is still underway and the article starts with an outline of the history with the intention of eliciting peer attention and review.

2. FOUR SERIES OF SOVIET SPECIALISTS SENT TO CHINA TO ASSIST WITH URBAN PLANNING

According to part of the statistics, more than forty Soviet specialists were sent to China over a 10-year period to provide technical assistance (limited to fields closely related to urban planning), commencing from the arrival of the first series of Soviet municipal engineering specialists in August 1949 to the return of the last series of specialists to the Soviet Union in May 1959. They worked in China for different lengths of time, as short as a half year or as long as three years. Based on the time of arrival and the hirer entities, the specialists could be categorized roughly into four series which varied remarkably in the backgrounds, field and key concerns of assistance.

2.1 FIRST SERIES: SOVIET MUNICIPAL ENGINEERING SPECIALISTS (1949-1950)

Between April and May 1949 the CPC Central Committee filed a request with the Soviet Union for the assignment of the first series of specialists to assist with municipal construction for Shanghai and Beijing, two newly liberated megacities. Because municipal construction concentrated primarily on the dissolution of extant practical problems at the time, due consideration must be given to urban planning in the long run. Therefore the Soviet planners gave some advice on urban planning.

The first series of Soviet municipal engineering specialists arrived in China at the end of August 1949 and returned to the Soviet Union in the middle of May 1950, staying about 8 months in China. The team included three interpreters as well as eighteen members specializing in water supply and sewerage, transportation, healthcare, construction and electrical engineering. The team leader was Moscow Soviet Vice Chairman and Vice Mayor П. В. Абрамов.[9] The major urban planning adviser was Soviet architectural engineer М. Г. Бараников who, on November 14, 1949, made a thematic report complete with a range of proposals to the Beijing People's government regarding urban planning for Beijing (refer to Figure 1) before making a second report in Shanghai on March 16, 1950 regarding the reconstruction and consequent development of Shanghai. The first series of Soviet municipal engineers arrived before the official proclamation of the New China. The government had been replicating the Soviet institutions in whole in a lopsided manner. In regard of urban planning, the technical assistance primarily played a preliminary part in the introduction of Soviet theory and practice.

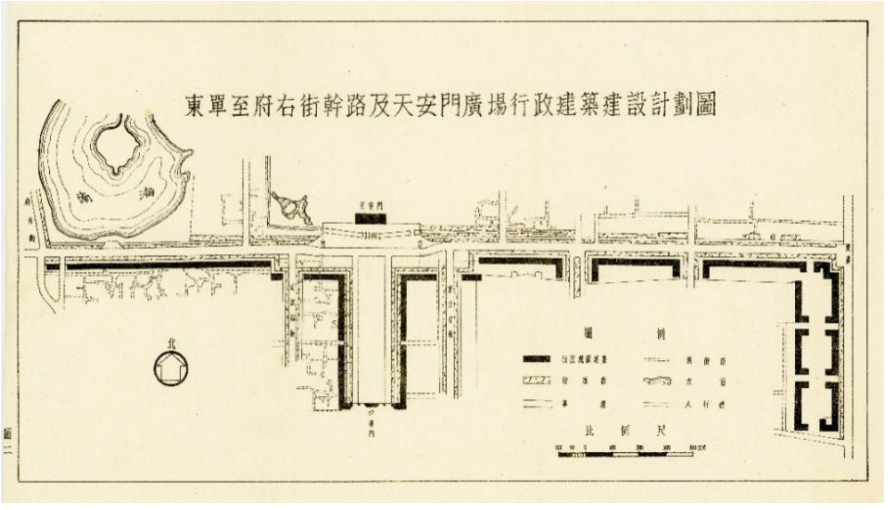

Fig. 1. Бараников's proposal on the layout of the central civil administration area around the Tian'anmen Square and Chang'an Street (Nov. 1949) Courtesy of Бараников, On the Future Development of China (offprint)

Fig. 2. Мухин (2nd from right), Liang Ssu-cheng (1st from left), etc. posed for a picture, Jul. 1958, Moscow. Courtesy of the family of Wang Wenke (1st from right)

2.2 SECOND SERIES: SOVIET URBAN PLANNING SPECIALISTS (1952-1956)

The second series of Soviet specialists were sent at the invitation of China at a time when the second Five-Year Plan (1953-1957) was forthcoming. The series consisted primarily of А. С. Мухин, Д. Д. Барагин and Я. Т. Кравчук who was retained primarily by the urban planning authority at the central government level. They came to China separately. Мухин, who arrived in April 1952, was retained first by the State Department Central Committee on Fiscal and Economic Programs (an entity under the central government), then by the Ministry of Construction Projects and returned around the beginning of October 1953. Барагин succeeded Мухин, arrived at the end of May 1953 and returned at the end of 1956. Кравчук, who arrived in June 1954, was retained first by the Ministry of Construction Projects, then by the newly-mandated National Construction Committee and went back around July 1956.

Мухин had been an assistant of Soviet master architect А. В. Щусев, and served as the chief engineer in northwestern Soviet port city Мурманск (refer to Figure 2). He was virtually alone when he came on a mission to provide China with assistance in urban planning. It chanced that China was preparing to kick off the first Five-Year Plan and the siting of 156 Soviet-assisted important industrial projects was underway. As China was starting from scratch in urban planning and was in dire need of professional planning engineers, Мухин prepared a host of lengthy, inspiring urban planning reports for Beijing, Shanghai, Shenyang, Xi'an, Baotou, Lanzhou and Hangzhou, including proposals on preliminary planning efforts. He appeared at numerous important meetings, like the first national urban development symposium, calling for large-scale urban planning activities, putting forward applicable scientific theory and methodology, and assisting China to develop the first draft of an urban planning & design procedure. His assistance brought a significant impact on the establishment of urban planning institutions for China, the implementation of important planning projects, the introduction of urban planning as a discipline, and the development of planning talent programs. Мухин helped lay a very important groundwork for Chinese modern urban planning; hence the phrase "Мухин Age" was coined in honor of his stay in China as part of the Chinese history of urban planning.[10]

Once a chief engineer of the Leningrad Urban Design Institute (Leningrad was the now St. Petersburg), Барагин had a great deal of experience in planning projects (refer to Figure 3). As one of the few Soviet planners who worked longest in China (three years), he came through the intensest and most important part of the urban planning activities which took place over the first Five-Year Plan period of China. Барагин gave extensive and profound instructions on the planning of the various Chinese cities and areas, covering almost all major cities involved in the first Five-Year Plan. His technical decisions proved scientific and pragmatic in directing a range of urban planning & design solutions to the areas and cities. Take Beijing as an instance. It was due to his assistance that China formulated and released the first draft of a reconstruction and expansion plan for Beijing in the second half of 1953. In providing technical assistance he was so remarkably strict and down-to-earth that China was able to establish an increasingly refined, systematic and many-sided suite of urban planning schemes and institutions.[11]

Fig. 3. Барагин (2nd from right) directing planning work, 1956. Courtesy of Zhang Youliang

Кравчук, prior to assignment to China, had served as vice head of the Moscow Urban Design Institute. As a very experienced planner he was familiar with Soviet urban planning policies and institutions(refer to Figure 4). Unlike Мухин and Барагин who were primarily in the employment of the planning scheme preparation authorities, Кравчук served primarily on the National Construction Committee, focusing on the authorization of planning solutions. He spent more than two years in China, taking charge of the technical and administrative approval of a great many planning tasks and giving technical planning instructions for many areas and cities. He helped lay an important foundation for the July 1956 release of the Tentative Directive on Urban Planning by the National Construction Committee. The technical assistance of Кравчук came as a powerful impact on the institutionalization and normalization of urban planning activities of the newly proclaimed China. The Soviet planners who stayed in China in the same period also included Асевков, communications academician of the Soviet Academy of Construction Science, and professional architect Туманская. Асевков, who arrived in China in October 1952 and returned in October 1954, was retained by Tsinghua University as a lecturer on architecture and urban planning. Туманская (female), who came to China along with her husband who worked in the Sino-Soviet Friendship Hospital, was employed by the Beijing Municipal Planning Committee, provided some urban planning assistance to Beijing.

Fig. 4. Кравчук (2nd from right) directing planning work, Jun. 1954. Courtesy of the family of Wang Wenke.

2.3 THIRD SERIES: SOVIET PLANNING SPECIALISTS (1955-1957)

The third series of Soviet urban planners, organized primarily as a panel, were retained by the Beijing government as a professional team accountable directly to the CPC Beijing Committee in assisting with the preparation of a systematic normative overall plan (refer to Figure 5). The nine-member panel, composed primarily of specialists of the Moscow Urban Design Institute, was led by construction planning director С. А. Бодрев who formed the core of the panel along with В. К. Змиевский, technical director of the Moscow Urban Design Institute, and А. А. Юниной (female), planning finance documentation manager. The specialists arrived in China from April 1955 to July 1956, worked for around two years and returned to the Soviet Union in the second half of 1957. The third series of Soviet planners carried out a comprehensive and minute investigation of the then situation of Beijing, going deep into multiple fields, e.g. population, industry, transportation, water supply & drainage, heating and gas, among others. In spring 1957 the planners completed the second version of the *Preliminary Overall Urban Planning Scheme for Beijing*, which was to serve as the main basis for local urban planning & administration for the following over two decades to come. While being involved in the planning for the capital city, the panel devoted a lot of time and energy to lecturing the Beijing urban planning officials, central government planners and planners of other cities on urban planning topics. The contribution of the Soviet planners had a great impact on the formation of a team of professional Chinese urban planners. Apart from that, the Soviet panel visited Tianjin and Wuhan on investigation missions, submitting some proposals on local urban planning topics.

Fig. 5. The Soviet panel of specialist discussing the Beijing overall planning scheme, 1957. Courtesy of Zheng Tianxiang.

The Soviet planners staying in China at the time also included Leningrad Civil Engineering Institute Prof. A. A. Афонченко who came to China in September 1955 and went back in September 1957. While in China he was retained by Tsinghua University as a professor of architecture and urban planning.

2.4 FOURTH SERIES: SOVIET PLANNING SPECIALISTS (1956-1959)

The fourth series of Soviet specialists, organized primarily as a panel, mainly comprised a subway team and a planning team.

The subway team, primarily in the employment of the Ministry of Railway and the Beijing government, consisted of five specialists of the Moscow Subway Design Institute and was led by vice head and chief engineer Б. А. Иванович, who served as an academician of the Soviet Academy of Sciences as well. He arrived in October 1956 and returned in April 1957, working for a half year in China.

Fig. 6. Group Photo: China Academy of Urban Planning and Design (CAUPD) sent Махов(7th from right, front rank, Jun. 1957), etc. back to Soviet. NOTE: Architect Манахова (3rd from left, front rank); electrician . Забаровский (4th from left, front rank); economist Штибельман(6th from left, front rank); architect Кувырдин(5th from right; front rank); CAUPD president Lu Quqing (7th from left,front rank). Courtesy of Gao Dianzhu

The subway team was primarily responsible for technically directing Beijing subway design and construction. Their stay in China was relatively short and partially overlapped that of the third series of Soviet planners retained by Beijing. In cooperation with the Beijing Subway Construction Administration and the third series of planners who drafted the overall urban planning scheme for Beijing, they drafted the long-term subway construction plan, conducted engineering geological and hydrogeological surveys in detail, and submitted the Phase 1 subway plan. The subway team made a significant contribution to the subway planning for Beijing.

The planning team was retained by the Ministry of Urban Construction (a central government-level urban planning institute which was integrated into the Ministry of Construction Projects in 1958) and its affiliate, the Central Urban Design Institute. The team had six members, including Я. А. Салишев of the Moscow Urban Design Institute who succeeded Барагин as a consultant to the Ministry of Urban Construction. The other five specialists, working for the Central Urban Design Institute, included Jewish Soviet economist М. О. Штибельман who headed the Soviet planning team. Салишев and Штибельман came to China in May 1956 and returned in May 1959, serving three years in all in office. The other four came to China in the second half of 1955 and went back between 1958 and 1958, serving two years in office (refer to Figure 6). As with the second series of urban planners, the fourth series of specialists were hired primarily by Central government-level authorities to take up similar responsibilities in a wide scope of fields. They needed to conduct extensive technical

guidance for urban planning in many areas and major cities. Because most of them worked in China from 1956 onwards, the target of assistance shifted to industrial facility siting and urban planning in tune with the schedule of the second Five-Year Plan. Local planning trials also commenced. However, although the Soviets contributed significantly to China's People's Commune Initiative as well as local planning for a host of small-and medium-sized cities and counties, part of the activities failed to achieve the expectation due to a special historical and political background, e.g. the Great Leap Forward Movement.

The Soviet planners staying in China at the time also included urban highway planner A. Я.Тураева and rural residential community planner Бутены who were respectively hired by Tongji University and Northeast Agriculture College. Тураева worked in China for two years and Бутены for one year.

After the Sino-Soviet relations degraded in July 1960, the Soviet Union recalled all its specialists from China. Nevertheless, as the fourth series of planners had returned on completion of their tasks by May 1959, the incident did not impact very substantively on urban planning in China (refer to Figure 7).

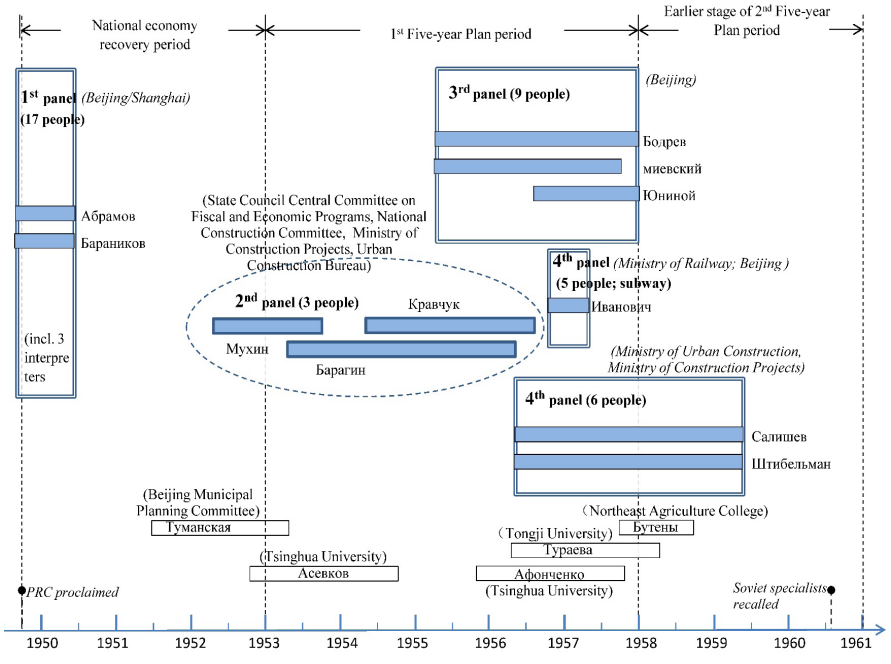

Fig. 7. The length of stay of the four series of Soviet experts in China

3. INFLUENCES OF SOVIET TECHNICAL ASSISTANCE ON CHINESE URBAN PLANNING POLICY

3.1 EFFECTIVENESS OF THE SMOOTH LEARNING OF SOVIET PLANNING THEORY

In addition to direct technical assistance of the Soviet planners, China learned Soviet urban planning theory also by translating Soviet works and journals, sending students to Soviet and exchanging short-term visits. Still, direct assistance predominated since the scarcity of written learning materials made the newly-proclaimed China heavily reliant on the onsite instructions of the Soviets. Besides, the Soviet planners offered many opportunities for their Chinese counterparts to ask questions and exchange views in time (refer to Figure 8). As is known to all, there was a heated academic debate in the Soviet academic community from the 1920s to the 1930s on Socialist urban planning topics.[12] The debate gave birth to a unique branch of international urban planning characteristic of Socialist cities. In like manner, what China learned from Soviet urban planning theory in the 1950s was remarkably characteristic of a planned economy and socialistic urban planning ideas. Nevertheless there was a significant dissimilarity, e.g. Soviet planning theory and methodology dictated by the Soviet planners was in a relatively mature form so that China managed to partially avoid suffering from the detours and throes typical of the creation of Socialist planning theory, therefore achieving certain singular transcendent effects in this field.

3.2 PARTIAL LOCALIZATION OF SOVIET PLANNING THEORY

While the Soviet specialists took the primary responsibility for the technical part of urban planning, China still predominated in the formulation of some planning policies. In the meantime, while directing the planning activities the Soviet planners must take account of a basic problem, i.e. whether Soviet theory was readily applicable to China and how they communicated with their Chinese counterparts on joint solutions. Мухин was an instance. As a specialist very sensitive about the situation of China, he often enumerated such cases as Beijing, Tianjin and Chengdu in his directions and considered planning traditions. This indicated that what the Soviets introduced to China included more than such fundamental relations as "foreign theory → Chinese practice" and "foreign experience → Chinese practice". There were also such response logics as "Chinese practice → Chinese practice" and "Chinese theory → Chinese practice", which were realized thanks to the assistance of the Soviet planners.[13]

Such a living mechanism enabled China to introduce some moderation and adaptations while in practicing Soviet planning theory. Take overall urban planning for instance. The Soviet Union set extremely high standards for scientific planning. Considering planning urgency and a lack of professional planners in the newly-proclaimed China, it was unlikely to replicate the Soviet model without change. Therefore, the Chinese planners had to resort to an "infantile" model as a theory based on which to simplify fundamental written materials, reduce the content and number of drawings, and set lower professional standards. In this way the

infantile model was made a more flexible alternative. Since the infantile model had quite a few remarkable features, like simpler procedures and distincter crucial points, it is still of scientific significance as a flexible response to emergencies, resolution of major problems and formulation of more pragmatic urban planning solutions.[14]

3.3 EXCELLENT DIRECTION AND COMPLETION OF A HOST OF IMPORTANT URBAN PLANNING PROJECTS

In offering construction assistance the Soviet specialists focused their energy primarily on Beijing and a few important industrial cities which concentrated the majority of the 156 Soviet-assisted important industrial projects. They kept track of the full implementation of the planning procedures of these cities, listening to reports in phases and giving directions on the fundamental course of the whole work. In especial, the Soviets attached very great importance to scheme design. They personally presided at plan comparison and validation procedures. Prior to completion, the submission and approval of all planning solutions must be subject to the review and approbation of the Soviet planners. Accordingly the Chinese government issued directives requesting strict compliance with the advice of the Soviets who, as chief urban planners, played an outstanding part in making technical decisions on a range of important projects and fulfilling a host of excellent planning schemes.

According to part of the statistics, the Soviet planners helped China complete over fifty key urban planning tasks between 1953 and 1957 and, by the end of 1957, China had approved the infantile plans and partial detailed plans of 15 cities.[15] These included some of the most representative illustrious designs of the newly-proclaimed China. For instance, Luoyang located a new industrial estate in Jianxi District west of its city proper and avoided construction in the old part of the city. The Luoyang model was a design included as a classic case of Chinese urban and rural planning (refer to Figure 9). In Lanzhou, planners designed belt-like clusters along the long, narrow Yellow River valley and the plan was a frequent exhibit on display at the events of the International Union of Architects (refer to Figure 10). In Xi'an, planners laid a sound groundwork for old city protection by locating the industrial facilities on the eastern and western wings of the civil administration, business and residential areas of the old city (refer to Figure 11).

3.4 NURTURING OF THE FIRST-GENERATION WELL-EXPERIENCED URBAN PLANNERS

Chinese urban planning in the 1950s was conducted primarily by a few fresh graduates of technical colleges and technical high schools who were mobilized by the government to engage in urban planning. Under the direct instruction of the Soviet specialists, they practiced formulating specific plans. The structure of the urban planning teams featured a remarkable model of "Soviets-led young Chinese team".[16] Owing to Soviet instructions and experience, the first-generation Chinese planners prospered quickly and gradually became capable of handling tasks in a relatively independent way. According to part of the statistics, the number of Chinese urban planners had surpassed 5,000 by the end of 1957.[17]

While the Soviets instructed the Chinese urban planners on site, they organized some professional training courses. Furthermore, a few Soviet specialists served full-time or part-time in some institutions of tertiary education. Under this background China began to set up urban planning as a major. In 1952, Chinese universities started to conduct school configuration based on the Soviet model. For example, Tongji University set up urban construction and administration as a major in 1955 based on the Soviet subject of Городское Строительство И Хозяиство which related to civil engineering; formal enrollment started in 1956. In the meantime, Tsinghua University, Nanjing Industrial Engineering College, Chongqing Engineering College and many other universities introduced professional urban planning as a specialty. It was in this context that China introduced and developed urban planning as a discipline.

3.5 FORMATION OF THE MODERN CHINESE URBAN PLANNING SYSTEM AND CULTURE

The technical assistance of the Soviet planners in urban planning resulted in China shifting from predominant Western ideas and theory in earlier modern times in a lopsided direction to Soviet ideas and theories in 1950. Take the urban planning system for instance. Thanks to the Soviet specialists, the New China set up its earliest state planning authority — the Urban Construction Bureau under the Ministry of Construction Projects — in the second half of 1952. From then on the Urban Construction Bureau was frequently upgraded in level before being administered along with the National Planning Committee. For a time it was accountable to multiple authorities, like the National Planning Committee, the National Construction Committee and the Ministry of Urban Construction. Meanwhile, China mobilized many human resources and supplies to set up the Central Urban Design Institute (the predecessor of the now China Academy of Urban Planning and Design) which was an urban planning institute concentrating massive technical resources. With the national urban planning system in place, the central government managed to develop a significantly greater capability in organizing, coordinating and administering urban planning activities nationwide. That resulted in some sort of a stereotyped model across China.[18]

As Chinese urban planning turned modern against the Soviet benchmark in the 1950s, modern Chinese planning culture came into being, deeply influencing the guiding philosophies, values,working models, management systems and many other facets of contemporary planning. Once in existence, the Soviet model instilled a powerful “cultural gene” into modern Chinese planning model. The instant the modern planning culture was born in China it was destined to subject planning activities to an intense reliance on historical Soviet paths and institutions which brought substantial impacts later on. The influential traits of the Soviet model in the early days of the New China are still appreciable in contemporary Chinese planning activities.

4. CONCLUSION

The Soviet specialists provided China with ten-year-long technical assistance in urban plan-

ning. In the interim, the perspectives of China on the Soviet planning theory and specialists varied with the historical backgrounds and social & economic contexts. When the first Soviet municipal engineer team arrived in China in 1949, a few Chinese planners, represented by Liang Ssu-cheng and Charles Chen, signified some dissents from their Soviet counterparts in several fields.[19] In 1952, the first national urban development symposium definitely required entire replication of Soviet theory by way of the unification of guiding principles. In 1953-1957, a few queries were raised on Soviet theory, especially some planning standards, during the implementation of some specific projects (one example was the $9m^2$—$6m^2$ Controversy)[20]. The influence of the Soviet model weakened substantially in 1958-1959 when the Great Leap Forward Movement stressed daring ideas and creations. After the Sino-Soviet relations worsened in 1960, China began to explore its own urban planning theory tailored to the background and completed and published *Urban and Rural Planning* in 1961, the first of its kind ever published by the New China.[21] Urban planning in China represented a complicated history of evolution from academic controversy, then to gradual identification and imitation, then to reflection, and then to academic criticism. The history threw light on the development and changes of the bilateral relations, the different backgrounds of China and the Soviet Union concerning urban planning, and the growth and maturity of the Chinese urban planning force. Considering the length limits this topic will be dealt with in a separate paper.

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ACKNOWLEDGEMENTS

My special acknowledgements are due to such following entities as the National Archives Administration of China, the MOHURD Office Archives, the Beijing Archives, the Beijing Urban Construction Archives, the Archives of the China Academy of Urban Planning and Design, and the archives of other cities for their robust support and assistance with archive retrieval.

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From 'Imposition' to 'Borrowing'
Zhanjiang Modern Planning Practice and City Space Transformation

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Abstract

In China, western planning and urbanization ideas dominated the urban modernization discourse. Meanwhile, the two characteristics of international planning diffusion, namely 'Imposition' and 'Borrowing,' occurred. First, 'planning imposition,' that is, colonial planning was implanted, and foreign municipal progress filled the gap of the local place before 1945. Second, 'planning borrowing,' China takes the initiative to introduce the Soviet model in response to urbanization and modernization in the mid-19th century. Since the 1970s, the methodology of transnational comparative history has been applied to the study of planning history, including the driving forces, institutional mechanisms, and persistent effect of the interaction of planning communication between cities and regions. This paper sets Zhanjiang planning history as an example. It presents a prism to examine the influence of Western planning and Soviet planning on many Chinese cities in the 19th. This paper investigated the processes, agents, and impacts by drawing on 'international planning diffusion.'

Keywords

urban planning history, international planning diffusion, city space transformation, Soviet planning, kouang-tchéou-wan

How to cite

Liu, Yi; Li, Baihao, "From 'Imposition' to 'Borrowing': Zhanjiang Modern Planning Practice and City Space Transformation". In Carola Hein (ed.), *International Planning History Society Proceedings*, 19th IPHS Conference, City-Space-Transformation, TU Delft, 5 - 6 July, 2022, TU Delft Open, 2022.

Southeast Asian Ancient Capital City Planning under Indianization

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Abstract

There has been frequent interaction between India and Southeast Asian countries since ancient times. This paper first sorts out the stages and characteristics of the spread of Indianisation, and discusses the formation of the capital planning system in ancient India. On this basis, it further analyzes the common points and special points of capital planning of southeast Asian kingdoms, in order to reveal the profound influence of Indian culture on capital planning in Southeast Asia.

Keywords

Indian civilization, capital city planning, mandala, Southeast Asia

How to cite

Cao, Kang; Zhang, Yi; "Southeast Asian Ancient Capital City Planning under Indianization". In Carola Hein (ed.), *International Planning History Society Proceedings*, 19th IPHS Conference, City-Space-Transformation, TU Delft, 5 - 6 July, 2022, TU Delft Open, 2022.

Trade Transition in Hanoi's Ancient Quarter During French Colonial Time

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Abstract

The Ancient Quarter (AQ) of Hanoi, Vietnam, developed as a lively economic centre since around the 11th century, selling specific commodities in each street. This guild-based economic district survived in the colonial era (1888–1945) because Hébrard, the French colonial planner, conserved the AQ to support the life of French people (Okada, 2015; Ota, 2001). Nevertheless, the colonial government changed commercial activities both directly and indirectly through their planning interventions; the traditionally ad-hoc markets on streets were integrated to the Grand Marché, and the new demands by the expatriates, military, and the metropole also had some impacts on the commodities produced and sold in the AQ streets. While previous researches discussed transition of colonial urban planning in Hanoi (Ota, 2001) and its impacts on the social structures (Ota, 2007), the socioeconomic aspect is less studied except for Okada's (2013, 2015) analysis on the situation in 1936 based on the list of merchants but no transition between times was discussed. To consider the impact of colonial planning onto the local people's lives, it is imperative to understand the transition of the socioeconomic activities. Thus, this study aims to explore the influence of the colonial power onto the commercial activities in the indigenous quarter through analysing the trades in the AQ with the merchants lists from 1929, 1933, and 1938 (Ville de Hanoi, 1929, 1933, 1938). The lists had 3,181 (1929), 2,788 (1933), and 2,991 (1938) records of merchants and companies in the AQ. The list recorded the name, address, and the trades, enabling identification of the trade distribution in the AQ at street level. With some adjustments to Okada's (2013, 2015) trade classification, each trade was categorised at two levels: Category 1 identifies five business types (commerce, manufacture, manufacture and sales, service, and freelance); and Category 2 has 22 types of commodity or the nature of the services (art/culture, book/stationery, carpentry/furniture, contractor, food, general merchandise, healthcare, hotel/restaurant, jewellery/accessory, leather, machine/equipment, material, metal/pottery/rattan/lacquer, religious, renting, stall, supplier, textile/fashion, transportation, other service, and other manufacture). For example, a tailor is classified as manufacture in the category 1 and textile/fashion in the category 2. The categorised trades were mapped using ArcGIS Pro. Through 1929¬1938, commerce remained more than half, followed by manufacture and manufacture & sales, and service. The category 2 breakdown was also similar; textile/fashion was the most, followed by general merchandise, metal/pottery/rattan/lacquer, and food. While these trades targeted the locals,

the colonial influence was seen in the commerce and manufacture of helmets (43 in 1929, 59 in 1933, and 40 in 1938), tailors for European (four in 1929, zero in 1933, and two in 1938), and military (six in 1938). A few cafés/restaurants targeting the European were present since 1933 (three in 1933, two in 1938). The distribution of these European-oriented shops mainly spread in the southern border of AQ, the closest to the French Quarter, yet gradually encroaching inside AQ, especially visible for tailors. The study clarified the geographical change of the colonial-influenced trades in Hanoi, yet the relationships with the planning and socioeconomic background need to be examined in future research.

Keywords

Colonial urban planning, Urban commerce, Commercial transformation, Trade distribution, Quantitative analysis

How to cite

Kashihara, Saori; "Trade Transition in Hanoi's Ancient Quarter During French Colonial Time". In Carola Hein (ed.), *International Planning History Society Proceedings*, 19th IPHS Conference, City-Space-Transformation, TU Delft, 5 - 6 July, 2022, TU Delft Open, 2022.

5 JULY: SESSION 2.5

URBAN TRANSFORMATIONS.

Chair: Stephen Ramos

Organizational format and management method regarding the National Farm stay with agricultural experience “nouhaku” Promotional Organization

Analysis of questionnaires and case studies

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Kyusyu Sangyo University
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Abstract

In Japan, in recent years, there has been an increase in efforts to promote ”nouhaku”, a type of stay in rural areas where people lodge overnight enjoying meals and hands-on experiences using the rich local resources. It is expected to be a means of revitalizing rural areas. Organizations all over the country are engaging in the promotion of “nouhaku”. Here, we call it a “nouhaku” promotional organization. However, in most cases, the management of the organization is supported by volunteer residents and public subsidies, and the acceptance of guests is mainly mediated by farming and fishing households. If the current form of organization and management method is left unchanged, it is predicted that it will become difficult to continue the project due to a lack of successors and a decrease in the number of host families as the local communities and the organizations promoting the project age. Under such circumstances, the government has indicated the direction to utilize the “nouhaku” promotional organization as a tourism resource, and is encouraging the activity with subsidies. As a result, there seems to be an increase in the number of “nouhaku” utilizing local resources such as vacant houses, closed schools, and other existing building stock. The purpose of this study is to classify and characterize “nouhaku” promotional organization by understanding their forms and activities, and to discuss the sustainability of “nouhaku”. For this purpose, this paper categorizes “nouhaku” promotional organization based on the results of a questionnaire survey of “nouhaku” promotional organization nationwide, and clarifies the characteristics of each type. The findings of this paper are as follows. (1) In the “home-stay type”, many accommodations provide home-cooked meals for local consumption. On the other hand, many of the lodging facilities in the “vacant house and abandoned school utilization type” do not provide

meals, and some of them use nearby farm restaurants. (2) The accommodation fee for the “vacant house and closed school utilization type” tends to be higher than that for the “homestay type”. This may be due to the cost of renovating old houses. (3) There is not much information available on the Internet, and there is a problem in the way “nouhaku” promotional organization discloses information. (4) Compared to the “existing accommodation type”, the “resort type” offers a wider range of prices, and the expected customer base is considered to be relatively upscale. (5) Many of the “existing accommodation types” use hotels or inns, which have more rooms and capacity, so they can accept more people. In summary, we found that the “resort-type” and “existing accommodation-type” programs have different characteristics from the traditional “nouhaku”, “homestay-type”. In the future, we plan to conduct a field survey of each type of “nouhaku” facility.

Keywords

Colonial urban planning, Urban commerce, Commercial transformation, Trade distribution, Quantitative analysis

How to cite

Tomita, Mao; Ohba, Tomoko; Koga, Motoya; “Organizational format and management method regarding the National Farm stay with agricultural experience “nouhaku” Promotional Organization -Analysis of questionnaires and case studies”. In Carola Hein (ed.), *International Planning History Society Proceedings*, 19th IPHS Conference, City-Space-Transformation, TU Delft, 5 - 6 July, 2022, TU Delft Open, 2022.

Tourism-Oriented Transformation
Issues and Planning of Jiaozuo Beishan, China

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Abstract

Historically, the northern edge of Jiaozuo urban areas (Beishan) is a group of mountains with good ecological environment, beautiful scenery and numerous historical heritages in the range of 823.4 square kilometers and 150-1310 meters above sea level. However, after more than 100 years of coal industry production in modern times, the mountains, vegetation, air and water here have been seriously polluted. Since 1999, Jiaozuo made the decision to treat environmental pollution and develop natural tourism vigorously in Beishan, trying to find another way for urban development. Owing to its great achievement in a short period of time, this area has established 3 Scenic and Historic Areas (National Parks of China), 1 National Nature Reserve, 1 Global Geopark of China and other categories of national parks. And Jiaozuo was rated as "Excellent Tourism City of China" in 2004, which marked the success of its transformation from an industrial city to a tourism city. Since then, Jiaozuo has shown people as an international tourist city. However, Beishan is also facing new issues under the development of tourism guidance. Due to the natural boundaries of terrain, the urban areas on the plains and the national parks in the Mountains are out of contact with each other in terms of construction and development strategies, especially for the transition zone between the two areas, it is difficult to be dominated by any side. Simultaneously, the rapid development of Jiaozuo's tourists and tourism income between 1999 and 2018 indicates that the development of national parks tourism in Beishan profoundly affects Jiaozuo and stimulates the development of Jiaozuo's economy, but in recent years, the situation has changed. With an unlimited increase in the number of tourists, the national parks' original tourist facilities and ecological environment could not afford such a huge number of tourists, like 52.8 million in 2018. Moreover, new construction spaces are strictly forbidden in national parks. Faced with these problems, this paper proposes a spatial development planning based on urban construction and national park ecological protection guided by tourism in Beishan. It is aimed at 3 regions: Near-City, Low-Mountain and High-Mountain. According to the construction intensity respectively, a method focusing on country parks, scenic roads and tourist service stations is proposed to fill the transition zone between urban areas and national parks, connecting urban areas with national parks in terms of trans-

portation, landscape and other aspects. Moreover, the planning includes the overall layout of the tourism service facilities of all national parks, diverting accommodation, catering and other tourism service functions to the urban areas through urban construction.

Keywords

tourism-oriented planning, transformation, urban development, national park, China

How to cite

Song, Lin; Wang, Xiaojie; "Tourism-Oriented Transformation: Issues and Planning of Jiaozuo Beishan, China". In Carola Hein (ed.), *International Planning History Society Proceedings*, 19th IPHS Conference, City-Space-Transformation, TU Delft, 5 - 6 July, 2022, TU Delft Open, 2022.

Resilience as the main condition for the effective functioning of a healthy city

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Abstract

A healthy city, in the context of urban planning, is regarded as the main criterion for evaluation sustainable urban development and a global phenomenon. Forming a healthy city is a complex, multifactorial and interdisciplinary process that takes into account the positions of various modern urban development strategies, such as Resilient city, Adaptive city, Green city, Smart city, Safe city, Inclusive city and others. It accumulates the most effective solutions, and excludes those that can disrupt the stability of the functioning of the city system for the benefit of people and strengthening of biodiversity. The very concept of health can be thought of as a well-being in the long term. Obviously, this state cannot be ensured if there are no elements of protection, timely and urgent response to sudden onset disasters, threats, epidemics, both natural and artificial. In such cases, the tools of the Resilient city strategy begin to play a key role, providing the functions of resistance, timely reflection of adverse events and recovery from them. In contrast to the long-term understanding of health, the time dimension becomes the key factor, namely timeliness. Such requirements should be reflected in the forms and functional-component composition of urban planning structures. Accordingly, the process of planning and designing cities should be accompanied by research on new natural and artificial phenomena, as well as new technologies and ideas that arise in response to identified threats from various fields of knowledge, interpreting them into elements of the urban environment.

Keywords

urban planning, healthy city, resilience

How to cite

Shemyakina, Veronika; “Resilience as the main condition for the effective functioning of a healthy city”. In Carola Hein (ed.), *International Planning History Society Proceedings*, 19th IPHS Conference, City-Space-Transformation, TU Delft, 5 - 6 July, 2022, TU Delft Open, 2022.

Building Global Resilience
Transnational Urban Expert Networks and the Search for Environmental Planning (1945-1972)

Shira Wilkof
Technion

Abstract

Urban resilience is often viewed as a contemporary concept related to global environmental challenges. Yet, urban planners already grappled with, and articulated, ideas of urban sustainably and resilience on a global scale for at least seven decades. This paper uncovers a previously unexplored transnational network of environmentally-minded urban experts who, as early as 1945, boldly charted a programme for sustainable urbanism to be implemented worldwide. Instead of the dominant high modernist discourse of 'progress and development' of the postwar period, they championed urban sustainability as the key for securing the future for humankind, democracy, and social well-being. Specifically, this network – urban planners, architects and landscape architects - operated under the auspices of the then leading nature conservation organization: The International Union for Conservation of Nature (IUCN), founded by UNESCO in 1948. There, the network's members developed an ecological urban land-use policy for global coverage cultivated a trans-disciplinary dialogue with top-tier ecologists and natural scientists, and experimented with several pilot projects in the Global South (e.g., a regional plan in the area of Calcutta, 1969). Coming together from the Global North, South and beyond the Iron Curtain, the network's core members were senior spatial experts in postwar large-scale modernization projects in their home countries who, distraught over the growing costs of environmental degradation, sought collective action[1]. Despite the novelty of their approach, the network failed to communicate their ideas and it was disbanded by the early 1970s, and its work effectively forgotten. As such, its overlooked ideas and activity constituted a locus of intense experimentation in global urban sustainability in the immediate postwar decades. Prefiguring much of the present-day discourse on urbanism and ecology, their work provides new historical context for unpacking the relations between urban planning and resilience. No less important, the project highlights environmental roads not taken in modern urbanism, informing present-day debates on development, catastrophe and sustainability. Based on newly excavated archival records in multiple countries, this paper presents initial results of a broader study that focuses on the transnational history of the intersections between urban planning and international environmentalism in the postwar period.

Keywords

postwar period, urban sustainability, transnational and global history, IUCN, environmentalism

How to cite

Wilkof, Shira; "Building Global Resilience: Transnational Urban Expert Networks and the Search for Environmental Planning (1945-1972)". In Carola Hein (ed.), *International Planning History Society Proceedings*, 19th IPHS Conference, City-Space-Transformation, TU Delft, 5 - 6 July, 2022, TU Delft Open, 2022.

5 JULY: SESSION 3.1

TERRITORY, IDEOLOGY, AND PLANNING.

Chair: John Gold

The religion locations and immigration in transformed urban spaces
A Case Study of Taipei

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Society of Architectural Historians of Taiwan

Abstract

The issue of immigration's cultural and social transformations in cities draws much attention from urban studies and planners. Immigrants bring their original religion and beliefs to new cities which enriches the cultural and social meaning in those cities. Religion and beliefs present a dual coexistence in cities, for example: individual and groups, social and business, private and public, which understands the city's inhabitants' immigration background, the work of social welfare, national policy and emotional aspects of the city's development and its context. The established location of an immigrant's religion and beliefs in cities represents not only the meaning of history, but also social, cultural, political, and economic meanings. Therefore, this research addresses the questions: How do the locations of religious and beliefs of immigrants show and what is the meaning of the transformations in urban spaces? Taiwan has received a lot of immigration since the 17th century, people who brought their religion and beliefs. Taipei as the capital of Taiwan represents cultural and social variety. This research will take Taipei's map as example and categorize religions in two groups: local (Confucius, Taoism and Buddhism) and non-local religions (besides local religions) and mark the religion addresses on Taipei city google map by the chronological method to compare the relation between immigrants' space transformations, Taipei city's development and to interpret the cultural and social trend on Taipei map.

Keywords

urban religion, urban history, immigration, Taipei

How to cite

Lan, Chih-Wen; "The religion locations and immigration in transformed urban spaces: A Case Study of Taipei". In Carola Hein (ed.), *International Planning History Society Proceedings*, 19th IPHS Conference, City-Space-Transformation, TU Delft, 5 - 6 July, 2022, TU Delft Open, 2022.

Contested Corridor
The Trans-Iranian Railway and the Persian Corridor

Stephen Ramos
University of Georgia

Abstract

In 1927, ruler Reza Shah Pahlavi launched a series of national communication infrastructure projects in the country's aspirations for modernity. Perhaps the most ambitious project was the Trans-Iranian Railway (alternatively, Trans-Persian Railway), which connected the norther Port of Bandar Shah on the Caspian Sea with the southern Bandar Shahpur on the Persian Gulf, and passing through the Tehran capital. The total distance was approximately 865 miles (1,393 KM) across the country's complex geography. Completed in 1938 with a broad spectrum on international consultants and local workers, organized along its many sections, the railway was celebrated as the world's "last great railway. The railway corridor served as both a national territorial structuring mechanism, as well as infrastructure that gave linear-growth orientation for the many towns that is communicated and catalyzed. Shortly afterward, in 1941, the Shah was removed on the eve of the Anglo-Soviet invasion of Iran, and soon after, the same Trans-Iranian Railway corridor was converted to the strategic Persian Corridor for Lend-Lease arms deployment to Russia by U.S. and British militaries. The paper considers these contrasting national and international objectives for the corridor, particularly in terms of pre- and post-World War II oil sovereignty, logistics, concessions, and territorial development.

Keywords

infrastructure geography, Trans-Iranian Railway, Reza Shah Pahlavi, Logistics

How to cite

Ramos, Stephen; "Contested Corridor: The Trans-Iranian Railway and the Persian Corridor". In Carola Hein (ed.), *International Planning History Society Proceedings*, 19th IPHS Conference, City-Space-Transformation, TU Delft, 5 - 6 July, 2022, TU Delft Open, 2022.

Early Settlement of Portuguese America

Thomas E. Bassett
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Abstract

The Portuguese Empire expanded over five continents and endured for nearly six centuries. Beginning with small forts and trading posts in Africa in the early fifteenth century to the formal handover of Macau to China in 1999, Portugal reigned over one of the longest lasting modern empires in the world. The Portuguese foray into the Americas was with the colony of Brazil and was a happenstance because a Portuguese captain accidentally landed in South America. What ensued was limited claims, multiple attacks from other European Empires, and the Portuguese quickly establishing the Donatary Captaincy system to colonize Brazil. This system of colonization was successful in the small Atlantic Islands the Portuguese colonized decades before, but was a near complete failure in Brazil. This paper shows how the Donatary Captaincies failed because of four reasons: (1) the decision to use Donatary Captaincies was reactionary; (2) individual captains assumed the initial capital cost of colonization without surplus to maintain their claims; (3) there were no residency laws for captains to be in the colonies; and (4) continual defensive attacks by indigenous populations hindered colonial growth. By providing the historical background and planning decisions about early Portuguese America, the entire story of "discovery" through Donatary Captaincies to a singular Governorate General adds to the understanding of early Portuguese colonization in Brazil. This paper contributes to the literature by providing a review of secondary sources regarding the early Portuguese colonization through the lens of built environment in English.

Keywords

Portuguese Empire, Brazil, colonization, built environment

How to cite

Bassett, Thomas E.; "Early Settlement of Portuguese America". In Carola Hein (ed.), *International Planning History Society Proceedings*, 19th IPHS Conference, City-Space-Transformation, TU Delft, 5 - 6 July, 2022, TU Delft Open, 2022.

DOI: 10.7480/iphs.2022.1.6511

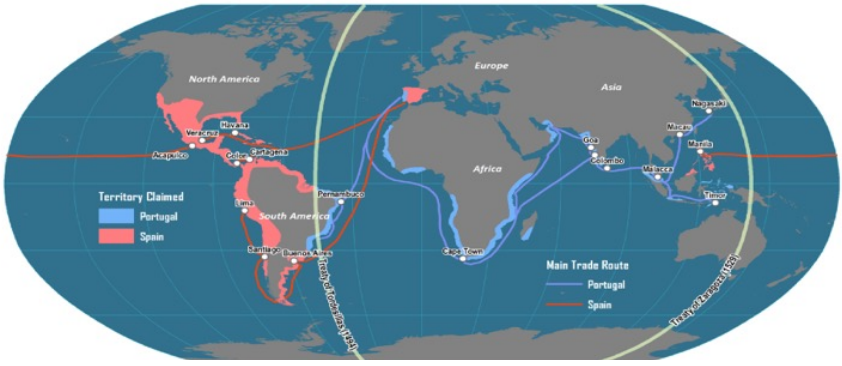

Fig. 1. The World after the Treaties of Tordesillas (1494) and Zaragosa (1529) (Olson-Raymer n.d.)

INTRODUCTION

The Portuguese Empire expanded over five continents and endured for nearly six centuries. Beginning with small forts and trading posts in Africa in the early fifteenth century to the formal handover of Macau to China in 1999, Portugal reigned over one of the longest lasting modern empires in the world. Compared to other European Colonizing Powers, is there something particular to the Portuguese colonial city design? Some scholars have proposed that the Portuguese were able to maintain an empire for so many centuries because they embraced malleability and flexibility. Instead of conquering vast, contiguous land, the trading port system had its advantages. The Portuguese were able to abandon those posts that were not viable, but also mobilize resources among them in order to defend and keep the empire intact (Bethencourt and Sousa 2000; Newitt 2001). A sociological view suggests that this longevity stems from *Lusotropicalismo* (Freyre 1971). This theory proposes that because of Portugal's relatively warmer climate compared to the rest of Europe and white Portuguese colonizers' miscegenation with enslaved Africans and indigenous people, Portugal was the "best" colonizer because their people were more prepared and humane to colonize the tropics. Unpacking this problematic theory is out of the scope of this paper, but Portuguese exceptionalism, or perhaps particularism, during colonization is integral to this study as well as future studies.

Focusing on the built environment, I will explore how the Portuguese built their early colonial settlements. Although the Portuguese engaged in distinct historical periods and locations of colonization, this paper will consider Portuguese America. This early story of colonization is marred with foreign competition and failed forms of land distribution which led the Portuguese to establish formally planned cities by the mid-sixteenth century. Thus, the relatively short span from 1500-1549 is the setting for this early colonization period where the Portuguese expanded into South America with their singular American colony: Brazil.

During the misnamed Age of Discovery, the Portuguese were the first European power to set out and claim land for their empire. Starting with the capture of Ceuta in Northern Africa in 1415 and then onto the Atlantic islands of the Azores, Cape Verde, and Madeira, Portugal

continued to sail out from their prominent Western European location setting up a network of ports and forts for trade and further exploration with the goal of reaching India to trade for spices. These first settlements were merely unplanned interventions, focusing primarily on the construction of a fort that could also resupply Portuguese sailors on their journey to Asia (Nunes Silva 2015). The Portuguese did not fully embrace the goal of a settler colony in these first invasions to Africa and India, but occupied small parcels of land or islands along sailing routes from Portugal, along Africa into India (Vasconcelos, 2016). With European interest growing in conquering the Americas, and the accompanying competition and claims from the Spanish, Pope Julius II brokered the Treaty of Tordesillas (1494). Along with the Treaty of Zaragoza (1529), these two treaties effectively split the world into two domains for exploitation, seen in Figure 1. The Treaty of Tordesillas established a dividing line which was a meridian in the middle of the Atlantic Ocean about three-hundred and seventy leagues to the west of Cape Verde, which was Portuguese, and about the same amount of leagues east of Hispaniola in the Caribbean, which Christopher Columbus had just recently claimed for Spain. Everything to the east of this meridian (including the eastern tip of South America, plus Africa and the Indian Ocean) was for Portugal to exploit, while those lands to the west (the majority of the Americas and the Pacific Ocean) was for Spain. A few decades later Spain and Portugal were disputing Pacific claims, and the Treaty of Zaragoza settled that disagreement along a meridian in the Pacific Ocean. After these treaties, the Portuguese, under King Manuel I, proclaimed to rule everything including the open sea, which was now part of the Portuguese Empire (Newitt 2001). This claim was unsurprisingly hard to enforce but more posturing than actual rule and speaks to the Portuguese's conception of empire.

PORTUGUESE AMERICA

After the Papal negotiation, a Portuguese fleet invaded South America in 1500 under the command of Pedro Cabral. This voyage was initially headed to Southern Africa, but storms threw off the fleet's course and the ships arrived in the eastern part of the South American continent. This first touchpoint for the Portuguese was quick simply to claim the land allowed under the new treaty and the Portuguese erected a cross before returning to Lisbon. The myth tells the story that two convicts from Cabral's fleet decided to stay on the beautiful beaches, while the rest of the command returned to Portugal (Green, Langland, and Moritz Schwarz 2019) The newly claimed land was plentiful in valuable, red-fleshed brazilwood to dye textiles, and the Portuguese uncreatively named the new colony Brazil. During this early time of colonization, India was the most important location for Portuguese trade and thus Brazil was a colony for the extraction of the red-dye wood as well as a place to resupply for ships headed around the Cape of Good Hope in Southern Africa headed to India. The initial Portuguese colonization in Brazil was similar to their *feitoria* system which they established along the African coasts. A *feitoria*, or factory, was a flexible space to serve as a market, warehouse, customs house, and support site for navigation. With increased competition from other European interests, militarization of the *feitorias* was increasingly important to establish a secure Portuguese claim in Brazil (Fernandes 2008). At the beginning of the sixteenth century, the Portuguese were more interested in India than the Americas. The Portuguese viewed Brazil as a place of raw mate-

rial accumulation rather than settler colony; these early, littoral settlements set the structure and more importantly the location for later cities, not establishing interior settlements for two hundred more years when mining gold became more important to the colonial economy (Paquette 2019b).

Three decades after the arrival of Cabral, the Portuguese Crown was still struggling to establish a true colony in the Americas through multiple *feitorias* because of various other European countries invading Brazil. Particularly the French and Dutch, as well as the Spanish and English, were all making incursions in Brazil, and the Portuguese Crown sought to change the form of colonization to ensure a more solid claim (Harrigan 2009). The Portuguese decided to use a form of land distribution and granting they had employed to grant land after the expulsion of the Moors from Portugal as well as when first colonizing the Atlantic Islands: the Donatary Captaincy. Portugal had a small population and had financial challenges funding colonization in the Americas as the country had invested so heavily in India. The Donatary Captaincy system shifted the upfront capital costs of colonization to private individuals, or captains, who then were able to administer their land. Since the land was a royal gift, the Crown would still receive money in the form of a tax on economic activity in the captaincies. In the Atlantic Islands, this form of colonization worked well because there was limited land, where Brazil with an enormous land mass presented new challenges.

In 1534, the King of Portugal, Dom João III, decided not to directly rule Brazil for financial and capacity issues as the majority of Portuguese resources was focused on India which was a vice-royalty with all the bureaucracy of the Crown (Vasconcelos, 2016). Thus, the Crown divided the entire colony of Brazil into fifteen Donatary Captaincies shown in Figure 2.

Dom João III drew up the captaincies as strips of land parallel to the equator running from the Atlantic coast to the Tordesillas Line, after which the land was effectively for Spain. The original north-south height of each captaincy was supposed to be fifty leagues, but mostly the boundaries followed natural features such as rivers allowing for varying sizes of each captaincy (Cabral 2016). Each captaincy was headed by a captain, who was able to administer the land as he saw fit. Captains tended to be one of three types of people. First was the petty nobility, as those members of the higher noble classes were not willing to risk their established fortunes in Portugal on a colonial project (Schwartz 2011). The second group were those men who had helped conquer India and Africa, military conquistadores who received a captaincy as payment. The final group of captains were "creatures of the king," which were mostly educated bureaucrats and other members of the upper-echelon of royal administration (Roper & van Ruymbeke, 2007, p 31).

The King granted a *doação* or gift of land to an individual who then had tall orders to accomplish within the captaincy. Different from the medieval fief, the king's *doação* was not dependent on service, but rather was a reward for services past, present, or future. The captain was to populate, defend, and develop the territory while ensuring the integrity of the catholic religion in the absence of a religious order (Paquette 2019a). "Besides equipping a fleet, he was responsible for finding financiers, colonists, and soldiers, for mobilizing a trustworthy entourage—indeed, for selling some or all of his assets to fund part of the expedition—while

securing on credit some of the arms and equipment necessary for a long-term installation in Brazil" (Roper & van Ruymbeke, 2007, p. 30). Many captains took on severe amounts of debt to finance the original voyage to Brazil, without any money coming from the Crown. What the captain received though was the ability to grant small tracts of land (*sesmarias*) to and levy taxes on the colonists within his captaincy. The captaincy was hereditary where the first son of the captain would inherit the land and it was in the family for perpetuity. There was no royal presence overseeing any of the captaincies in Brazil. There were "no armies, but organization and control of urban and rural militias; no royal capital, but, in contrast, emergence of small territorial capitals serving as the seats of provincial governments staffed by relatives and clients of the grantees" (Roper & van Ruymbeke, 2007, p. 27). The system was one of private enterprise, relieving the Crown of any initial financial burden, but allowing for royal profit accumulation. "The process of effective colonization of Brazil was therefore less the outcome of a long-term imperial drive to territorialize overseas dominions, than the pragmatic answer and institutional adaptation to practical challenges" (de Carvalho, 2015, p. 132). Portugal needed to colonize Brazil quickly to stave off foreign invasions and implemented an existing framework that was successful elsewhere in the empire.

During the beginning of the sixteenth century when the Portuguese Crown granted the captaincies, the main economic activity in Brazil was still brazilwood, extracted for its red dye. This trade became unsustainable because there was more competition for the trade in general (especially from the French and Dutch moving into Portuguese territory), much of the Atlantic Rainforest was depleted from harvesting the brazilwood, and trading with the indigenous populations for the wood was not as easy as the indigenous populations had already amassed rudimentary tools through decades of trade and demanded higher valued items (Dodge 2018). Thus, the new captains and colonists took to sugar cultivation as the soil was high in nutrients and relatively easy to grow with a high profit on the market. The Portuguese had already had success with sugar cultivation in the Atlantic islands, and transposing the crop to Brazil was not difficult (Vasconcelos, 2016). In order to cultivate this new crop, colonists needed large tracts of land for planting, new mills for processing the cane juice, and labor to run the entire production. This time was when the Portuguese began to forcibly import Africans to be enslaved labor for sugar production. All of this production occurred on the *engenhos*, or literally mill or machine, but the word *engenho* came to encompass the entire plantation with its main house for the ruling family, chapel, buildings for sugar processing, as well as smaller huts for the enslaved laborers. The development pattern was isolated and although some *engenhos* were home to nearly fifty people, the populations never became substantial enough nor had the corresponding built environment and land uses to become a town or city. The economy had moved from one based on extraction of brazilwood to a sugar plantation complex, which was "an 'archipelago' system consisting of islets of development, each linked to a trading post" (Roper & van Ruymbeke, 2007, p. 38). Each *engenho* acted independently and then transported its sugar to the port for exportation, but the sugar economy did grow the colony's population because of the means of production. Enslaved labor was needed for planting, harvesting, processing, and transporting the sugar, skilled labor was needed to process the sugar cane and construct the buildings of the *engenho*, and a literate labor force was needed to manage and administer the entire production.

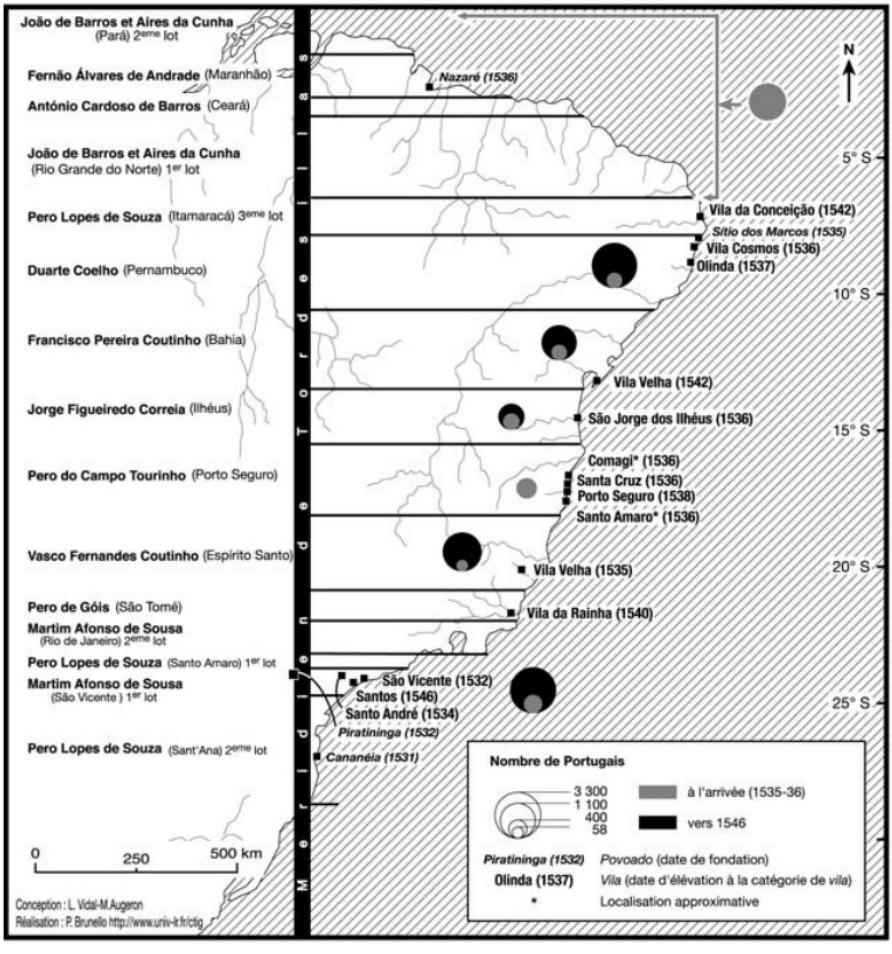

Fig. 2. Donatary Captaincies in Brazil, 1534 (Roper and van Ruymbeke 2007).

PROBLEMS AND SHIFT

Unfortunately, the Donatary Captaincy system did not entirely achieve the intended goal of becoming prosperous new Portuguese colonies. Perhaps the most important intention of the captaincies was to fend off any foreign invasions that would threaten the Portuguese claim in the Americas. This goal to thwart foreign advances was successful, but indigenous populations who initially traded with the Portuguese eventually presented challenges to the colonists. For the indigenous population who was not killed by European diseases or deadly force, the Portuguese forced them into enslaved labor and forced conversion to Christianity (Summerhill 2012). Reacting to the atrocities committed by the Portuguese, many indigenous

tribes attacked the captaincies and even expelled colonists from their claimed land. Only the captaincies of Pernambuco in the Brazil's Northeast and São Vicente in the Southeast were successful at establishing financially stable colonies. These two captaincies, with the addition of Ilhéus and Porto Seguro, were the only four Captaincies to survive past 1549, while the remaining eleven became abandoned or severely underperformed.

In order to reestablish prominence and develop Brazil, in 1548, just fourteen years after the captaincies' establishment, Dom João III decided to create a Governorate General of Brazil to directly rule and centralize power over the colony. Those captaincies that had been abandoned were completely subsumed into a single colony under the Governorate General, while others, Pernambuco, São Vicente, Ilhéus, and Porto Seguro continued to exist but were now provincial administrative districts within the colony of Brazil. The decision to invest more into Brazil was also driven by a decrease in Portuguese trade in India as more European powers entered that market in Asia, so the King wanted to create new lucrative opportunities in his new American colony (Fausto 2006). The first Governor General, Tomé de Sousa, arrived in the abandoned northeast Captaincy of Bahia dos Todos Sanots, with one-thousand people to set up the new capital of Salvador. Salvador had been a Jesuit settlement, but the area would now be the center of the entire colony of Brazil. The Governor General established three important positions to rule the colony: Chief Ombudsman, responsible for judicial issues and applying Portuguese law in the colony; Treasurer, responsible for the collection of taxes and the colonial budget; and the Captain General, responsible for the defense of the colony from both foreign and indigenous attacks (Fausto 2006). The centralized, bureaucratic organization of the colony was much more robust and directly controlled through the Crown.

The coastal location of the first colonial capital, Salvador, was strategic for two reasons: it was close to the productive sugar plantations of the northeast and also the local topography provided protection. In this manner, the city was able to receive enslaved Africans arriving from West Africa to work on the plantations because there was insufficient indigenous labor. Because the Portuguese founded Salvador deliberately to function as the administrative capital of the colony, the Portuguese Crown financed and planned the city. Salvador is located nearly two-hundred feet up a hill for defensive purposes but also to exert visual control over the region, and follows a two-leveled urbanization form that the Portuguese employed during the middle-ages and Renaissance, evidenced by the layout of Lisbon. Mimicking its imperial capital, Salvador has a *Cidade Alta* (Upper City) laid out in a gridiron pattern, which was home to the colonial administration as well as residences of the local elites. Below, in the *Cidade Baixa* (Lower City), the narrow strip of flat land housed the port, commercial areas, and residences of the lower class (Nobre 2002). For more than two centuries, Salvador continued to flourish as the capital of the colony, but for a combination of reasons, the Portuguese moved the capital to Rio de Janeiro in 1763. This new capital port would be closer to the recently discovered gold in the interior as well as establish a more strategic defense against other invading European powers in the south of the colony.

One of the most important areas of Salvador and many early colonial Brazilian cities was the *pelourinho* or pillory. Today, the entire historic center neighborhood of Salvador is still called *Pelourinho*, showing the legacy of the pillory square. The *praça* or square in colonial Portu-

guese cities was not unlike the Spanish *plaza*, but not as regularized. The Spanish manner of colonization was based on a set of codes named the Laws of the Indies, which provided an order to how they would colonize conquered lands. First implemented in Santo Domingo in present day Dominican Republic and updated several times over the sixteenth century, this set of laws specified how the Spanish were to conduct themselves on their new lands. The laws also dictated how to layout the new cities they were founding as they territorially expanded through the Americas and beyond. The laws were extremely specific regarding the location of any new town in "an elevated and healthy location" and the placement of specific buildings (cathedral or church and government buildings) around a plaza with colonnades and straight streets stemming off it to form a gridiron plan (Crouch & Mundigo, 1977). Therefore, the Spanish *plazas* were much more similar among the various Spanish colonial cities, where the Portuguese *praças* were more numerous in individual cities and unique across the empire (Godfrey 1991). The *praça* expressed both control and order for civic and ecclesiastical authority rather than the center of the local elite. In Brazil, the elite were large land holders cultivating sugar far from the city's *praça* diminishing the prominence of the square and city more generally (Curtis 2000). The pillories were mostly classical columns to show imperial power, but also were sites of executions and gallows.

A common conception is that the Spanish were very organized and orderly when planning and founding their cities compared to the Portuguese who were more flexible without a centralized planning effort (Clark et al., 1995; Hart, 2003; Medieros et al., 2009; Schürmann, 1999; Socolow & Johnson, 1981). It is true that the Laws of the Indies stipulated many specific aspects of urban planning for the Spanish, but for easier trade, the Portuguese mainly founded cities on the coast which had varying topography not allowing the colonists to plan and build each city in the same manner. Also, the Spanish tended to settle more inland and encountered more established indigenous settlements which they destroyed and rebuilt following the Laws of the Indies, settling in secure, protected locations previously chosen by the indigenous populations. Compared with Spanish America, in Portuguese America, there were practically no major indigenous settlements for the Portuguese to overtake, and in combination with the supremacy of the plantation economy, Brazilian colonial cities were not centers of society like they were in Spanish America (Schürmann 1999; Socolow and Johnson 1981).

Nonetheless, the Portuguese did implement *Ordenações do Reino*, or Royal Ordinances, and *Códigos de Posturas Municipais*, or Municipal Posture Codes, under King Dom Manuel I in 1512. The Royal Ordinances were very specific about the architecture insisting on certain materials, massing, locations, and even size of windows and overhangs for the buildings in the new Portuguese colonies. The Municipal Posture Codes were mostly concerned with standardizing weights and measures, but also had the purview of urban services like street cleaning as well as the basis of real estate transactions and construction permitting (Matoso 2014). The result from these ordinances and codes was that architecturally, across the Portuguese Empire and within Brazil, the cities looked very similar on the building-to-building level, yet the overall built environment was much more varied and unique responding to the local setting and topography. As Brazil continued into the following centuries, more centralized and unified urban planning entered as an important aspect of city development (Godfrey 1991).

INTERIOR EXPANSION

The following quote appeared in what many scholars consider the first book on the history of Brazil, written by Friar Vicente do Salvador in 1627, simply entitled *História do Brasil* (History of Brazil):

> *"I do not seek out Brazil's vast interior, because as of now, no one has walked upon it. This neglect is due to the Portuguese, who are great land conquerors, but do not take full advantage of their spoils. They are content to scramble along the beach like crabs" (Vicente do Salvador 1627).*

Writing more than a century after the Portuguese sailor Cabral first landed in South America, Salvador's observations covered many topics ranging from flora and fauna to climate and indigenous people. He constructed the inchoate narrative about the origins of the country that would become Brazil. His notions that the Portuguese colonists were happy to remain on the coast has become a reality in contemporary Brazil, a country of continental size, where 70% of the 212M Brazilians live within two hours of the beach (IBGE 2010). The population imbalance of today produces vast disparities where the population along the coast enjoy a higher standard of living compared to the interior. In between these two areas, a jungle, thicker than any European had seen before, divided the country. Nature was the impediment to inward expansion. First there was the *Mata Atlântica* the coastal, tropical rainforest along the Atlantic Ocean, which also paralleled the *Serra do Mar*, a coastal range of mountains keeping the population by the beach. Upon the highlands there was yet another jungle, the Amazon Rainforest, much larger in scale and another obstacle to overcome or tame in order to occupy the entirety of the country. In addition, the indigenous populations did not give up without a fight as colonists made invasions into their land.

Because of all of these challenges and colonization styles of extraction, the Portuguese settlement of Brazil developed mainly on the coast, but the first major entrance to the hinterlands was conducted through armed incursions led by groups of men in search of riches starting in the sixteenth century lasting through the eighteenth century. These invasions were called *bandeiras* (flags), and those who led them, *bandeirantes*. The English translation for *bandeirantes* is literally flag-carriers, but colloquially they are known as explorers, adventure hunters, bandits, although most commonly referred to as pathfinders. Instead of permanently settling land, the main objective of the *bandeirantes* was to build paths or a network of paths in the interior to extract mineral wealth, particularly gold, silver, and precious stones but also abduct indigenous people to be sold to slave traders on the coast. Small, temporary, mining settlements did develop, but as soon as the mineral or precious stone that was being extracted became scarce, the miners would abandon the place. Several *bandeiras* could simultaneously occur and continue for multiple years.

The majority of *bandeiras* originated in the present-day state of São Paulo. These expeditions of Paulistas (residents of the São Paulo region) were privately funded, always led by a Portuguese man or European descendent Brazilian and were staunchly Catholic endeavors. A chaplain was always present in the entourage to perform last rites for those who died in the field,

but also to proselytize to captive indigenous people who were not slaughtered by the *bandeirantes*. Enslaved people could also accompany the group acting as porters along with mules, and because of the dense vegetation, the expeditions were conducted on foot. There are few sources that describe these journeys, and most recount the same story. Many accounts depict armed *bandeirantes* attacking native villages and setting fire to their gardens and dwellings all while attempting to find mineral wealth and indigenous people to enslave (Dutra e Silva 2018). An anonymous letter sent to the King of Portugal in the 1690s changed the narrative of the *bandeirantes* from one of violence to heroism:

> *"Your Majesty could make good use of the Paulistas by honoring them and granting them concessions. Awards and interest will make men take great risks. And these are the sort of men who will venture all through the backlands. They are always tramping through it, with no more sustenance than forest game: animals, snakes, lizards, wild fruit, and roots of several different trees. They do not mind spending years on end in the backlands...And even if these Paulistas, owing to some fracases among one another, might seem unruly, no one can deny it was they who wrested from the wild heathens all the backlands we now possess...So Your Majesty should make use of the Paulistas to conquer your lands" (quoted in Capistrano de Abreu 1997, 100-101).*

The letter urges the King to forget the violence committed by the *bandeirantes* and focus on the territorial claims they were making. The reframing of the *bandeirantes* as heroic men conquering land for the Portuguese crown in need of compensation was now embedded in Brazilian history. Much akin to the first Thanksgiving between the Pilgrims and Native Americans in early seventeenth century New England, the false narrative of heroic men has become an important myth of the greatness of early Brazil. This letter also situated the interior of Brazil as a wild, untamable place, yet important for domination.

Although these violent pathfinders were responsible for murdering and enslaving indigenous people while decimating native settlements, there is no denying that they expanded the Portuguese and then Brazilian territory in South America. As stated before, the majority of early Portuguese Colonization remained on the coast because of the natural barriers of mountains, jungle, and the native defenses, but these *bandeirantes* did move (although violently) into these lands to claim more territory for Portugal than was stipulated by the Papal Treaty of Tordesillas (1494) (Cardozo 1946). Brazil would not be as continentally large today if the *bandeirantes* had not made their violent incursions.

Ouro Preto (Black Gold, named because of the black iron oxide covering the gold found in the area) became the center for mineral extraction in colonial Brazil. Founded in 1711, in the inland area that would become the state of Minas Gerais (General Mines), the town flourished through the Brazilian Gold Rush of the eighteenth century. Earlier, the path to this area was found by Fernão Dias Pais, a *bandeirante* from São Paulo. Although Pais did not settle the area, Ouro Preto would not have come to be without his *bandeira*. Very little other settlement of the interior occurred during this time period.

This discovery of gold in late 17th century led Portuguese Crown to mobilize into the interior to stake claim, but also stem the lawlessness of the *bandeirantes* and to make the area produc-

tive. Directly working for the Crown, José Silva Pais, a recent graduate of the newly created engineering school in Rio de Janeiro, would go on to plan inland settlements starting in 1737. The goals of this internal colonization were to solidify Portuguese claim against the Spanish in this region as well as diversify the economy with ranching. These new settlements had the explicit intention was to "Lusify" the land, civilize the indigenous people, and raise the importance of the single family: "Lands were always apportioned on the basis of the family as an economic element, and a concerted effort was made to reinforce the idea of individual family solidarity as opposed to communal structure." as the foundation of this new society (Delson 1979, 308).

The manner in which this 18th century colonization occurred runs against the common refrain that the Portuguese were haphazard and uncoordinated in settling land. Because the *bandeirantes* had already made incursions into the interior, the new settlements could use the network of roads and any abandoned structures to populate the area. Specifically to Minas Gerais, they implemented a "convenient urbanism" (Bastos 2012). Building upon the remnants of pre-existing settlements, the colonizers would implement a three-pronged approach to set up new settlements. First, they would adapt pre-existing buildings as well as roads, ensuring structural integrity and practical road layout. Second, they would augment through the construction of new streets, publics spaces, and buildings. Lastly, they would conserve those dignified buildings through maintenance of important structures.

The interior colonization intensified after the treaty of Madrid (1750), which expanded Portuguese claim against the Spanish in South America. The Amazon region was a new region that was important to the Portuguese, while Northern Africa was becoming untenable to hold onto their colonies. Because of repeated attacks from the Moors, in 1768, the Portuguese decided to move the settlement of Mazagão from North Africa to the Amazon region in Brazil (Correia 2013). The two-thousand residents first went to Lisbon, but then arrived in Brazil creating the settlement of Nova Mazagão. Following the Philipine Ordinances, the new city would be a center for agriculture, while the residents would be adept at farming, they also were used to defending their territory, which they would need to do against the indigenous populations in Brazil (Assunção 2009). Through this colonization and other expeditions, the Portuguese were able to dominate nature through many expeditions to survey the land settle boundary disputes.

CONCLUSION AND FURTHER RESEARCH

There are explanations for why Donatary Captaincies were the royal policy for a brief fourteen years in the long, more than three centuries of colonization in Brazil. With only two that were financially successful, Pernambuco and São Vicente, and with the addition of another two, Ilhéus and Porto Seguro, lasting after the creation of the Governorate General in 1549, the overwhelming failure of this system of colonization can be explained by four major reasons. First, the entire idea of implanting Donatary Captaincies was reactionary. Competing foreign powers were entering Portugal's claim in the Americas to extract the valuable brazilwood, and

Portugal reacted quickly to exert control using an existing system: Donatary Captaincies. This system had been successful in distributing land after the expulsion of the Moors during the Reconquista in continental Portugal as well as the early colonies on the Atlantic Islands of the Azores, Madeira, and Cape Verde. The amount of land in Brazil was on such a larger order of magnitude that the antiquated system could not function in this new area (de Carvalho 2015). Captains did grant *sesmarias* (subdivided tracts of land) to colonists to cultivate, but the large tracts were unmanageable at the scale intended (Martins 1980). The relatively quick decision to use Donatary Captaincies in Brazil because the system had worked in smaller colonies was not appropriate for Brazil. Second, while the Crown was able to pass on the initial capital costs of colonization onto the private individual (captain), these upfront costs were so high, on many occasions, there was no funds to actually run the captaincy once established. Third, the system did not have residency requirement for the Captain, allowing lieutenants and lower colonists to fend for themselves in Brazil without centralized decision making for each captaincy, nor were there enough colonists in general coming from the small country of Portugal to populate the new colony (Roper and van Ruymbeke 2007). Finally, the constant threat and attacks from indigenous populations thwarted many captaincies from establishing a permanent settlement. Therefore, the Crown, seeing those floundering captaincies abandoned the system in Brazil for a more formal, direct rule of Brazil with the Governorate General, much more akin to the Spanish system of colonial governance.

Even with their fleeting, formal existence, Donatary Captaincies have palpable legacies in Brazil today. To this day, interior colonization has been difficult for Brazil since these original settlements have kept the population close to the coast. Half of the twenty-six current Brazilian states derive their names from the original Donatary Captaincies. A less obvious legacy is the economic reality of contemporary Brazil which is very tied to land ownership where one percent of the population owns nearly half of all the land in the country (Garcia-Navarro 2015). The original captaincies and the *semarias* subdivisions were enormous in size and many of the same families are still owners of large tracts of land because of layers and layers of laws that have not changed since colonization.

To build upon this understanding of secondary source research of early settlements in Portuguese America, this summer, I will scrutinize primary documents as the next step. The *Ordenações do Reino* (under Dom Manuel I and Dom Filipe I) and *Códigos de Posturas Municipais* may provide a better understanding of how the Portuguese wanted to build their settlements and early cities. A closer examination of these documents as well as royal decrees, edicts, and correspondences among the metropole and colonies may help explain more about the intentions of the Portuguese for city building which have had lasting effects on contemporary Brazilian society. I also hope to illuminate more about the early planning processes of Portuguese colonization to examine the commonly held idea in the literature that the Portuguese colonial settlement was haphazard and unplanned.

ACKNOWLEDGEMENTS

The author would like to thank UCLA for their summer research grant that supported this work as well as Professor Vinit Mukhija for advising the project.

DISCLOSURE STATEMENT

No potential conflict of interest was reported by the author.

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Thomas E. Bassett is currently a PhD Student in the Department of Urban Planning at the University of California, Los Angeles, having been a practicing planner he has come back to academia to explore historical antecedents of contemporary urban issues.

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The “New” New Delhi
Reimagining the 20th Century Colonial Garden City in the 21st Century

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Abstract

India’s capital city of Delhi has long held a unique position in the nation’s historical geography. It continues to be a major gateway through which global capital and ideas seep throughout North India and beyond. The city has rapidly urbanized since the neoliberal reforms of the 1990’s and has since expanded its role in the global economy while embracing ideals of global modernity in design and planning. New Delhi, the portion of Delhi built as the colonial capital of British India and inaugurated in 1931, has maintained its role as the seat of Indian bureaucracy since independence in 1947. The city was conceived as a modernist Garden City that showcased the tenets of the City Beautiful movement, especially through its ceremonial boulevard, the Kingsway (now Rajpath) between the Viceroy’s House (now Rashtrapati Bhavan) and the All-India War Memorial Arch (now India Gate). This zone is not only the most imageable in the city, but also the most used for a variety of activities, including leisure, political rallies, festivals, parades and protests. Much of New Delhi, the least dense and most elite district within the Metro Area, has been eyed by city decision-makers for their ambitious growth and development plans. One such recent plan, the Central Vista Avenue Redevelopment Project, reimagines the Rajpath corridor as a seat of power of a new modern India that has finally emerged from the shadows of its colonial past. The project is a large-scale redevelopment that involves construction of numerous new buildings and demolition of existing ones, justified as supporting the expanding central administration. It has been aggressively pushed by the Prime Minister’s Office (PMO), has breezed through all urban design and environmental clearances, and has been supported generously through public monies. Indeed, work on the project was only minimally disrupted during the Pandemic as it was deemed “essential”. Project details have largely been kept under-cover, leaving little room for public discourse. In this work I focus on the evolution of the colonial Kingsway through the postcolonial Rajpath and into the practice and tenets of the Central Vista Avenue Redevelopment Project. In particular, I explore the conflicting conceptualizations of the Project in relation to urban transformation. There are multiple lenses through which it can be viewed, including as an attempt by the current right-wing Hindu nationalist government to undermine India’s non-Hindu past, usually conducted in terms of Muslim heritage but more recently Christian as well. Another view could be that the project attempts to reclaim a space that was conceived by the nation’s colonial oppressors and designed by a White architect of country estates who would be considered a racist using today’s understanding of the term. Does that make the

Project a form of adaptation or erasure? Sustainable practice in the name of space efficiency, or just neoliberal nationalist hegemony in a new guise? As Delhi stands (perpetually) at the crossroads between tradition and modernity, wrestling with a difficult past and an uncertain future, I explore these questions and their implications for post-colonial cities everywhere.

Keywords

Urban Redevelopment, New Delhi, Planning History

How to cite

Chalana, Manish, “The “New” New Delhi – Reimagining the 20th Century Colonial Garden City in the 21st Century”. In Carola Hein (ed.), *International Planning History Society Proceedings*, 19th IPHS Conference, City-Space-Transformation, TU Delft, 5 - 6 July, 2022, TU Delft Open, 2022.

5 JULY: SESSION 3.2

HISTORY OF RECONSTRUCTIONS.

Chair: Laura Kolbe

City as an Accumulation of Reconstruction

Planning History of Kamaishi, a City Constantly Hit by Disasters, Mainly Tsunami

Naoto Nakajima
The University of Tokyo

Abstract

Kamaishi City, located on the Sanriku coast in the Tohoku region of Japan, was one of the cities affected by the 2011 Great East Japan Earthquake. The city was once prosperous in the iron and steel industry, but due to the withdrawal of that industry, its population was less than half of its peak of less than 40,000 people just before the earthquake, but it is still a large city among the cities along the Sanriku coast, where the distance between the sea and the mountains is close and there are no large plains. Even since the mid-19th century, the city has been repeatedly hit by disasters such as the Great Fire of the 1880s, the Meiji Sanriku Tsunami of 1896, the Showa Sanriku Tsunami of 1933, the bombardment during World War II in 1945, and the Great East Japan Earthquake in 2011. The city has been repeatedly hit by disasters, and has recovered from each one. In the reconstruction process, partial improvements have been made based on the challenges of the previous city structure. The city space of Kamaishi is nothing but the accumulation of such planning for reconstruction. In particular, after the introduction of modern city planning, the reconstruction plan after the 1933 tsunami was made with a strong awareness of tsunami evacuation. The plan included the widening of streets leading up to the mountain, which also served as a firebreak, the building of a road to escape the tsunami on the mountainside, and the relocation of houses to higher ground. In the planning for reconstruction from the war after the heavy damage caused by the bombardment, the land readjustment project was carried out in a wide area, and several wide axes were constructed leading to the mountains, and public facilities, temples and shrines were relocated to higher ground. Before the Great East Japan Earthquake, the urban structure realized by these reconstruction plans was strongly recognized by people as an evacuation system to escape to the mountains. Most of the official evacuation sites set up on higher ground were shrines, temples, parks, and roads that were relocated or constructed in the reconstruction process after the modern era. On the other hand, there was also privately owned evacuation sites at the end of small stairs that were created based on people's experiences of the disaster. Although the city was hit by one of the largest tsunamis in the Great East Japan Earthquake, the reconstruction plan that followed added another layer of reconstruction. The resilient urban

environment that has been created in Kamaishi is the accumulation of these reconstruction efforts. The planning history plays a role in deciphering this accumulation. This reading of planning history will form the basis of people's daily awareness of the urban environment, and this awareness will increase the probability of evacuation behavior in the event of an actual tsunami.

Keywords

tsunami, reconstruction, evacuation site, wide road, Great East Japan Earthquake

How to cite

Nakajima, Naoto; "City as an Accumulation of Reconstruction: Planning History of Kamaishi, a City Constantly Hit by Disasters, Mainly Tsunami". In Carola Hein (ed.), *International Planning History Society Proceedings*, 19th IPHS Conference, City-Space-Transformation, TU Delft, 5 - 6 July, 2022, TU Delft Open, 2022.

The Evolution of Ancient Urban Defense Spaces in Northwest China During the Song–Ming Period

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Abstract

Based on the historical geographic database of the cities subordinated to the Ming Great Wall defense system and the Northern Song fortress defense system built by the research team, the history of military settlements in northwest China and their urban defense structure were traced. A comparative analysis of the spatial characteristics of urban defense planning during the Song and Ming Dynasties using settlement morphology data revealed significant differences in urban defense planning in the two eras. Focusing on typical urban settlements that span two historical periods and have continued into the present time, we analyzed continuous space-time slices of ancient urban defense spaces and explored their historical causes using ancient urban maps, local chronicles, and aerial photographs. Finally, the historical evolution sequence of ancient urban defense spaces was determined.

Keywords

Ancient urban defense, military architectural heritage, spatial evolution, planning history.

How to cite

Tuo, Xiaolong; Li, Zhe; "The Evolution of Ancient Urban Defense Spaces in Northwest China During the Song–Ming Period". In Carola Hein (ed.), *International Planning History Society Proceedings*, 19th IPHS Conference, City-Space-Transformation, TU Delft, 5 - 6 July, 2022, TU Delft Open, 2022.

DOI: 10.7480/iphs.2022.1.6446

INTRODUCTION

The northwest region served as the frontier of the Central Dynasty of ancient China. During the Song Dynasty (AD 960–1279) and Ming Dynasty (AD 1368–1644), the northwest region saw the construction of two large-scale military city systems—the Northern Song fortress system and the Ming Great Wall fortress system. A large number of cities, towns, and villages in northwest China originated from these military settlements, featuring a widespread distribution of urban defense architectural heritage. Due to relentless wars and significant social transformation, it is difficult to trace accurately the history of urban planning in the region.

In the region, which has good agricultural conditions, a considerable number of military settlements span two historical periods and have continued into the present time, some being regional central cities. With the rapid urbanization of northwest China in the last three decades, the remains of such cities have disappeared. The complexity of urban development and subversion by modern urban construction hamper tracing of the historical development of urban spaces. However, in urban historical research, there is a lack of comparative analysis of urban defense planning and facilities in the Song and Ming Dynasties, and our understanding of the urban spatial characteristics of the time is relatively vague. Therefore, it is difficult to determine the period of urban texture formation between cities or within a city.

According to extant historical materials, the Song and Ming Dynasties are the most traceable and direct sources of the urban spaces of most ancient cities in northwest China. We addressed the following questions:

1. What are the forms of urban spatial planning of northwest military settlements in the Song and Ming Dynasties?
2. What roles did song and Ming urban defense construction activities play in the evolution of urban space in Northwest China?

METHODS AND MATERIALS

This study was based on historical and geographical textual research on military settlements in Northwest China. To ensure that the main urban spaces were formed in the Song or Ming period and avoid interference from other historical periods, we established a database of military settlements of the Ming Great Wall defense system and the Northern Song fortress defense system. The database encompasses most settlements of the two systems, together with site information, geographical textual research information, historical urban construction records, and ancient maps.

In the database we identified urban samples with ancient construction records and maps that were created or completely reconstructed in the Song and Ming Dynasties and analyzed their urban spatial structures. By conducting a case analysis, combined with historical materials and aerial films, we analyzed the inheritance and development of a typical road network and urban spatial structure.

URBAN SPATIAL STRUCTURE IN THE SONG AND MING ERAS

During construction of frontier defense systems in the Song and Ming Dynasties, many new cities and fortresses were founded. The spatial structure and texture of these cities were unaffected by existing cities; therefore, they enable investigation of the characteristics of urban planning in the two periods. This section is focused on the comparative analysis of cities and fortresses newly constructed during the Song and Ming Dynasties.

DEVELOPMENT BACKGROUND OF URBAN SPATIAL STRUCTURE IN THE SONG DYNASTY

Previous research on the urban spatial structure of the Song Dynasty focused on functionality and traditional cultural ideas. Hang Kan and Wang Ziqi analyzed the spatial layout of newly built cities in the Song Dynasty based on literature records and well-preserved sites. They believed that cross-streets and T-streets were popular in the Northern Plain during this period. The cross-street pattern is consistent with China's ritual culture advocating middle and square[1]. It also has spatial characteristics convenient for spatial planning and urban management, rendering it popular in northern cities beginning in the Sui and Tang Dynasties. The T-street became popular in the Song Dynasty, mainly for the purpose of military defense[2]. Su Bai believes that T-street and single-long-street patterns are the main characteristics of urban street layout after the disintegration of the Lifan unit system (里坊制) during the Song Dynasty[3]. However, this inference about the causes of the of cross-street and T-street pattern is not supported by sufficient research[4]. Whether these empirical conclusions are consistent with the situation in Northwest China needs to be verified based on a large number of cases.

STREET STRUCTURE IN NORTHWEST MILITARY CITIES DURING THE SONG DYNASTY

Because of the lack of historical materials and archaeological information, we selected several fortresses created or reconstructed during the Northern Song Dynasty whose administrative status continued into later generations and had no record of major subversive destruction. Although the city maps (Fig. 1) were obtained from the local chronicles of the Ming and Qing Dynasties, according to the reconstruction and expansion records of previous dynasties in local chronicles, the older or inner part of the city was likely to have been constructed during the Song Dynasty. In addition, the cities, being located on a plain, are not limited by the terrain, enabling them to reflect the concept and intention of the urban planner.

Most examples had a tortuous street structure composed of T-streets with few cross-streets directly connected with city gates, which is common in ancient cities in northern China (Fig. 1).

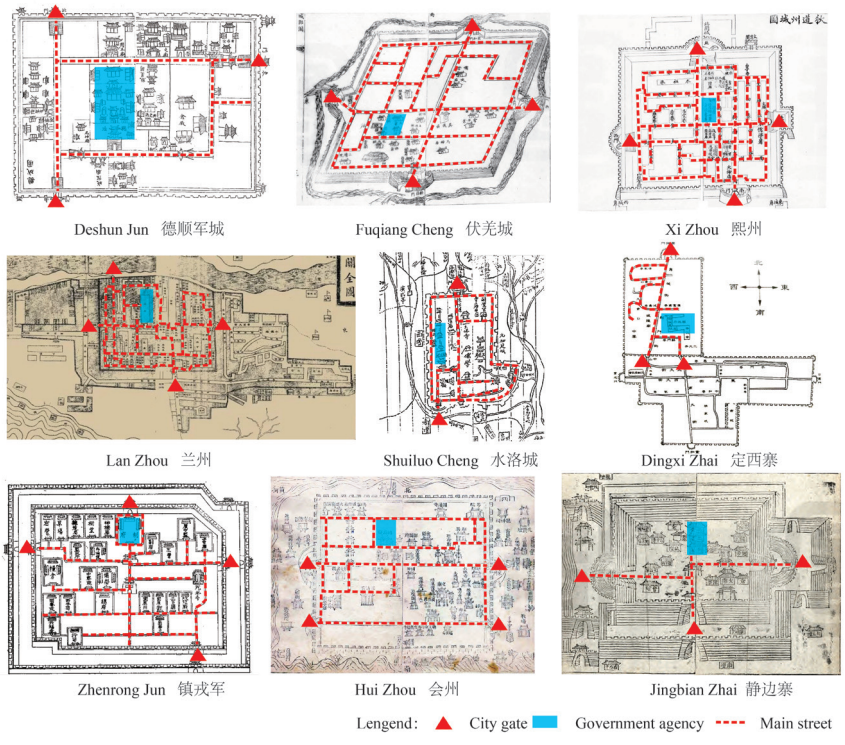

Fig. 1. Ancient maps of the spatial structure of northwest cities in the Song Dynasty.

SPATIAL STRUCTURE OF NORTHWEST MILITARY CITIES IN THE MING DYNASTY

Li Yan investigated the internal spatial layout of the military fort in the Ming Dynasty. The main road system can be summarized into three types: single-long-street, cross-street, and fishbone[5]. The castle typically contains a small bell-drum tower with a cross-passage beneath, situated at the center of the main road; this tower is commonly called the central tower (中央楼). The central tower is common in large forts with a cross-street structure directly connecting three or four city gates and is in line with the planning form of an independent bell-drum tower in cities of the era after the Yuan Dynasty (generally considered to be the product of the urban curfew system in the Yuan Dynasty[6]). It is a major feature of the internal space of the military fort of the Ming Dynasty. In northwest China, most cities with a cross-street structure were founded as border military towns during the Ming Dynasty according to the urban construction records in the local chronicles (Fig. 2). Some scholars believe that this represents a return to the traditional ritual system[7].

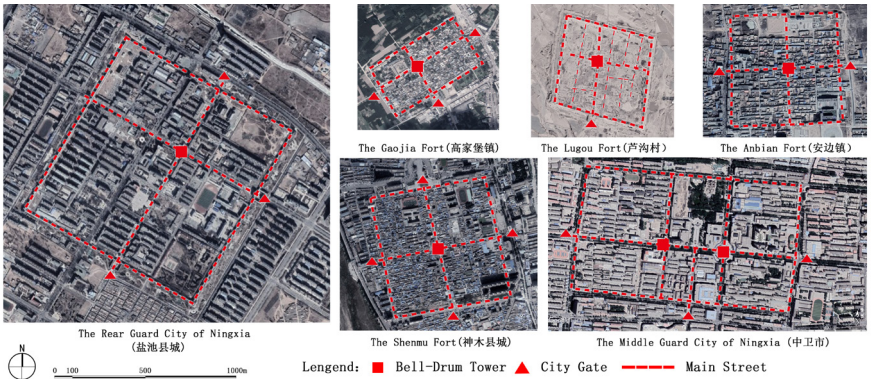

Fig. 2. Spatial structure of newly constructed cities in Northwest China in the Ming Dynasty.

EXPANSION OF NORTHWEST MILITARY CITIES IN THE MING DYNASTY

After the foundation of the Ming Dynasty, northwest society experienced stable development for more than 200 years. The population continued to grow and peaked in the Wanli Period (万历 AD 1573–1620)[8]. After the Zhengtong Period (正统 AD 1436–1449), invasions by Mongolian tribes increased sharply[9]. The construction records of 138 cities in the chronicle of Shaanxi (陕西通志)[10] show that, during this period, the northwest region experienced an upsurge of urban defense development; cities at all levels constructed outer walls and passes attached to or independent of the main cities (Fig. 3). The urban defense structure became more complex and diversified, and the urban defense concept more active and flexible.

Based on the taxonomy of typology, the types of urban defense structure depicted by the city maps in the local chronicles of the northwest region in the Ming and Qing Dynasties were of the multiple-anti-line mode (multiple-defense-circle and multi-core-support types), single-city-defense mode (basic and key-strengthening types), and group-defense mode (Fig. 4). Many cities inherited from the Northern Song Dynasty experienced various forms of expansion. Therefore, the texture of many northwest cities exhibits overlapping urban spatial structures and defense facilities inherited from the Song and Ming Dynasties.

EVOLUTION OF URBAN DEFENSE SPACE FROM SONG TO MING—LONGXI CITY

As an example, we used Longxi City in Gansu Province, which has a typical development history spanning the Song, Yuan, and Ming dynasties. We used high-altitude images of northwest China taken by aircraft in the 1960s, prior to large-scale modernization of the northwest cities, and the urban defense facilities and road network structure of the Ming and Qing Dynasties were largely retained.

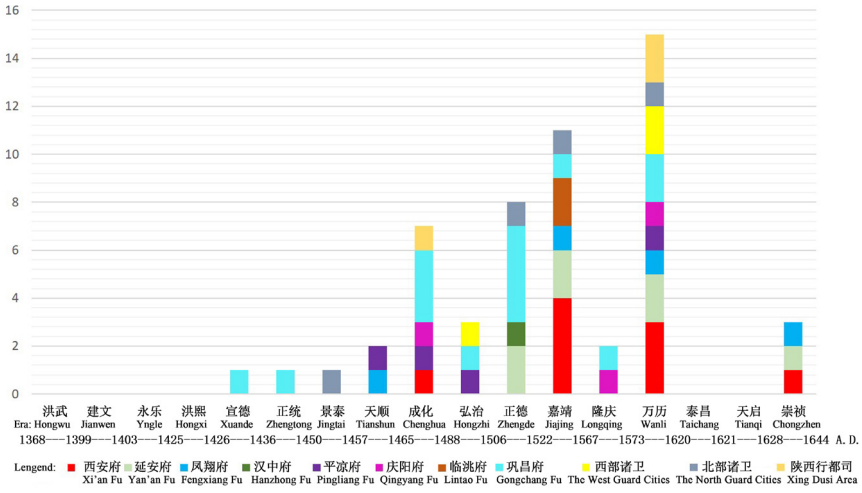

Fig. 3. Temporal and spatial distributions of outer cities in Shaanxi Province established in the Ming Dynasty.

DEVELOPMENT OF URBAN DEFENSE IN LONGXI CITY

Longxi City was originally a frontier fortress of the Northern Song Dynasty, named Guwei Zhai (古渭寨). Due to its increasingly prominent strategic position, it has been developed to maintain its defensive capabilities by successive generations. Its urban development comprised four phases: frontier outpost, senior military administration, regional political core, and northwest national defense strategic focus. From the Northern Song Dynasty to the late Qing Dynasty, there was no record of major war or disaster damage to Longxi City[12]; its urban defense facilities and spatial pattern were inherited and, therefore, the spatiotemporal information is relatively complete, and the growth context is clear. According to the historical records, Longxi City experienced four construction phases:

1. Military outpost (Fig. 5a). Initially, Guwei Zhai (古渭寨) was so small and weak that it could repel only low-intensity invasions. Its primary task was to protect agriculture and border trade.

2. Eastward expansion (Fig. 5b). With the continuous expansion of the territory of the Northern Song Dynasty, Guwei Zhai became the main distribution center for soldiers and military grain in Xihe District (熙河路) and the most important border trade town[13]. Therefore, the city continued to expand eastward during the Yuan Dynasty, creating the scale and internal pattern of the current main city.

3. Construction of the outer city (Fig. 5c and 5d). The long-term stable development of society resulted in population spillover. The residential areas outside the city expanded, and the outward movement of urban functions such as public security, taxation, business distribution, and military garrison resulted in the formation of inner and outer cities[14]. However, the outer wall was low and thin, and so was far weaker than that of the main city. In this way, a multiple-layer defensive structure with the main city as the core was formed.

4. Strengthening of the north outer city (Fig. 5e). With the increasingly serious threat of Mongolian tribes in Qinghai during the middle and late Ming Dynasty, the north outer city expanded to be equal in size to the main city. Finally, a zoning defense pattern in which the north and south cores were mutually supportive was formed.

EVOLUTION OF THE URBAN DEFENSE STRATEGY

The evolution of urban space is complex. In Longxi City, which was long a frontier settlement under military pressure, the changes in urban spatial structure are closely related to the urban defense strategy adopted by planners. By comparing background historical data with historical images, we found that the Longxi urban defense strategy has passed through the following stages:

(1) MILITARY OUTPOST.

Guwei Zhai (古渭寨) backs onto Renshou Mountain (仁寿山) and is in a remote position on one side of a river valley, monitoring a vast planting area while not blocking the major roads in the river valley. Its location reflects the site selection principle of "avoiding important crossings" proposed by Xiang Yue (乡约):

> *A strategically important crossing is usually beside a large river. It has abundant water and grass. It is the only way for nomadic cavalry to invade and retreat, so it is easy to attract the envy of the enemy. The enemy's spies and scouts often come and go from here, so they must be able to grasp the accurate information of the stronghold. Moreover, at the beginning of the invasion, the enemy often uses the most elite military force to launch an assault on the important crossing, and when they withdraw to the grassland from the inland, they often vent their anger at the fortresses in the important crossings along the way*[14].

Therefore, Guwei Zhai at that time could repel only low-intensity attacks, and its urban defense construction concept was based self-protection, with little potential for counter-attack.

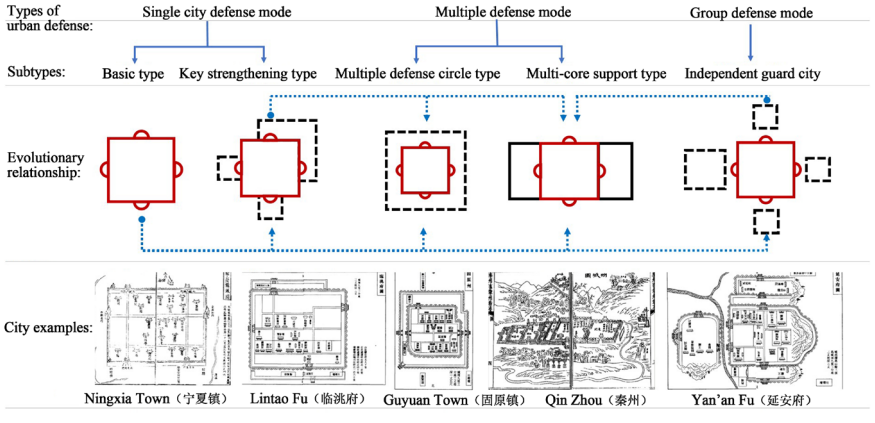

Fig. 5. Types of urban defense spatial structure of cities in Shaanxi Province in the Ming Dynasty.

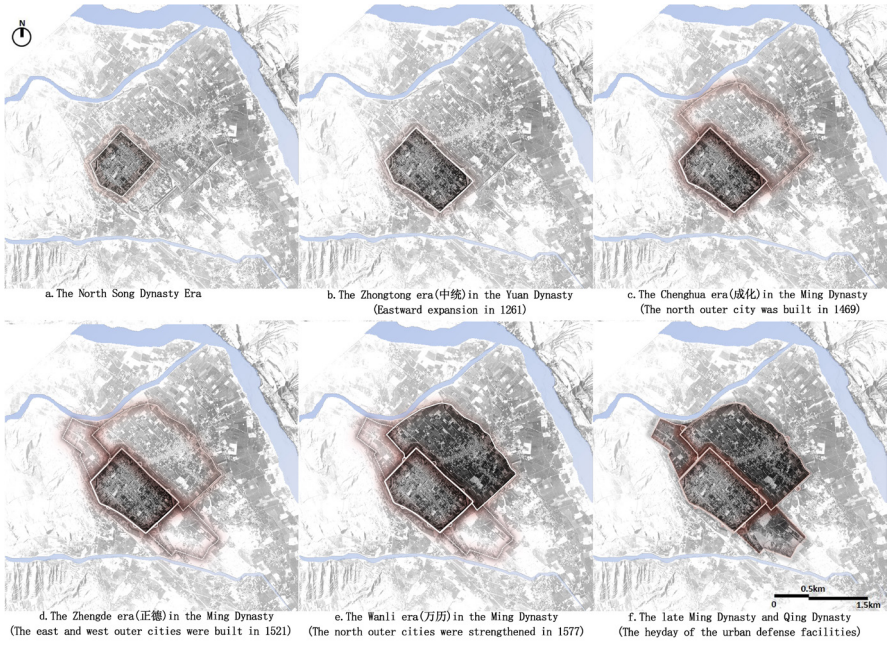

Fig. 6. Evolution of urban defense space in Longxi city According to historical aerial photos and records.

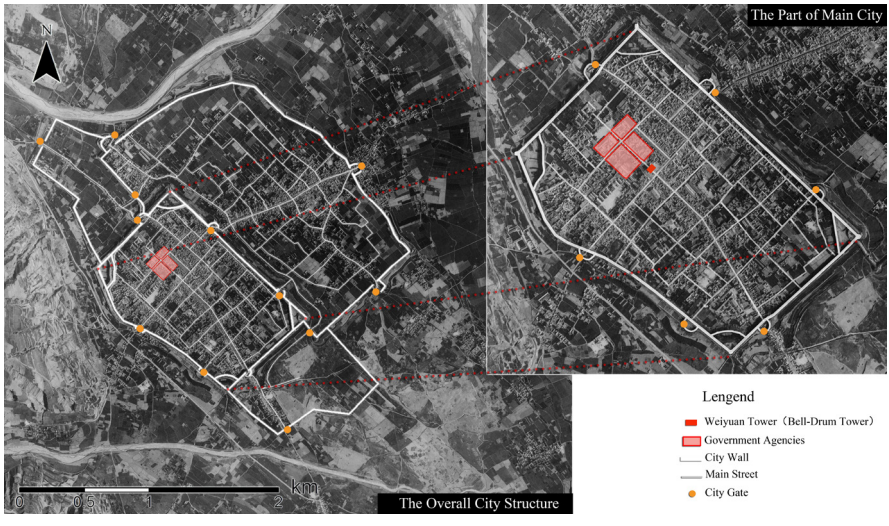

Fig. 7. Historical aerial photographs of the urban spatial structure of Longxi in the 1960s.

(2) CONSERVATIVE AND RESTRAINED SPATIAL DEVELOPMENT OF THE MAIN CITY.

During the Song and Yuan Dynasties, Longxi city developed from a border fortress to a regional politico-military center. The narrow urban space once mainly serving the military expanded eastward to form a high-grade city protected by a single wall of circumference ~ 9 li (1 li is about 560 m), in line with the scale of Fu cities (府城) in the Ming and Qing Dynasties[15].

The urban spatial structure of Longxi City differs from the cross-street structure of northern cities in the Ming Dynasty. Upon entering the main city from its west and north gates (the main defense direction), no street leads directly to the administrative center; instead, the way is blocked by T-shaped crossings and multiple spatial turns (Fig. 6), reflecting the inheritance of urban spatial characteristics from the Song Dynasty.

(3) EXPANDING THE DEFENSE DEPTH.

Improvement of the north outer city's defense capability resulted in a change from a single-core to a dual-core urban defense system, altering the over-centralized defense pressure of the main city to a balanced regional defense structure. Thus the risk of penetration to the center is halved by doubling the core of urban defense.

(4) BLOCKING THE VALLEY TERRAIN.

Farmland accounts for a larger proportion of the north outer city than does construction. According to the 1964 census of Longxi County, there are 6511 households in the ancient-city town (城关镇)[16], which corresponds to the settlement state of the urban area reflected in aerial photographs (1962). During the Jiajing Period (嘉靖 AD 1522–1566) of the Ming Dynasty, there were only 4114 civilian households (also the total number of households in Longxi County) and 1633 military households in Longxi County[17]. Assuming small fluctuations of the average household population in the traditional agricultural society during the period from the Ming Dynasty to the founding of the People's Republic of China, it can be inferred that the urban population in the Ming Dynasty was lower than that in 1962. Therefore, in outer cities constructed during the Ming Dynasty, the urban defense scale far exceeded that of the residential area and the needs of the population at that time. Considerations related to military defense accounted for a large proportion of planning.

> *Topographic conditions are considered in outer city planning. According to the war records of the Longxi area in the Ming and Qing Dynasties, northwest of the river valley, where Longxi City is located, is the main axis of invasions by Mongolian tribes. Therefore, the north and west outer city walls are arranged near the river channel and a cliff bank. Firearms on those walls can cover the river embankment and protect the city gate, making it difficult to launch an attack to the north or west of Longxi City, as indeed history records:*

In 1866, the peasant army turned in from the southeast corner of the main city at night. At that time, Deputy General Yu Zhengxiang's (喻正祥) army was stationed in west outer city, and Heling's (鹤龄) army was stationed in the north outer city. When they launched attacks on the peasant army, the peasant army could not go out from the main city, nor could government troops enter the main city from the outer city. The battle was deadlocked until dawn[18].

The west and north outer city were the focus of urban defense at that time. The fully fortified

outer city had significant protection on the west and north, forcing an enemy to detour to the southeast gate of the main city, which had the weakest defenses, to carry out a sneak attack. Moreover, if the main city has fallen, the strength of the outer city can be leveraged to turn defeat into victory.

The outer city of Longxi City was originally used as an auxiliary defense facility to protect persons residing outside the main city and, over time, developed into the main defense space supporting the main city, expanding the terrain advantage, blocking geographical channels, and sharing the core pressure of defense. The urban fortifications thus had good defense depth and frontal scale, cutting off a streamlined offensive and dividing any besieging force.

CONCLUSION

In northwest China, which experienced long periods of war and social unrest, pragmatic urban defense considerations affected the evolution of urban spaces. Therefore, when tracing the history of urban space development, we must fully consider the historical military security situation, urban defense concepts, the military technology background, and other factors. Tracing of the urban defense spatial structure showed that a cross-street structure directly connected with city gates is popular in military cities constructed during the Ming Dynasty, and the bell-and-drum tower is generally set in the center of the cross-street. The T-street and single-long-street structures dominated cities and castles in the Song Dynasty. The above provide a reference for evaluating the age of urban spatial texture.

The urban space of a fort originates from traditional Chinese urban planning and the standard military construction space unit, and so meets the efficiency and economic requirements of the state for large-scale military construction. Therefore, the urban space of military cities and castles is generally that of a single structure. In the middle and late Ming Dynasty, a considerable number of fortresses developed into regional central cities. Their urban defense development level initially exceeded the primary state and developed into a more complex defense structure, indicating positive urban defense planning. Understanding this historical trend will facilitate research on the development of urban spaces in northwest China.

DISCLOSURE STATEMENT

No potential conflict of interest was reported by the author.

NOTES ON CONTRIBUTOR(S)

Xiaolong Tuo is a doctoral student majoring in architecture in the School of Architecture of Tianjin University. His current research focuses on the history of the military settlement system in northwest China and the protection and use of related urban and architectural heritage.

Zhe Li teaches architectural design and history in the School of Architecture of Tianjin University. He has long focused on landscape archaeological research of ancient military architectural heritage and related heritage protection.

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IMAGE SOURCES

Fig. 1 Ancient maps from “Longde County Annals of Kangxi Edition 康熙隆德县志” (Fig. 1a), “Fuqiang County Annals of Kangxi Edition 同治伏羌县志” (Fig. 1b), “Didao Annals of Xuantong Edition 宣统狄道州志” (Fig. 1c), “New Gansu Province Annals of Xuantong Edition 宣统甘肃省新通志”(Fig. 1d), “Zhuanglang County Annals of Kangxi Edition 康熙庄浪县志” (Fig. 1e), “Dingxi County Annals of Minguo Edition 民国定西县志” (Fig. 1f), “Guyuan Annals of Jiajing Edition 嘉靖固原州志” (Fig. 1g), Jingyuan County Annals of Daoguang Edition 道光靖远县志” (Fig. 1h), and “Jingning Annals of Kangxi Edition 康熙静宁州志” (Fig. 1i).

Fig. 2 Base maps from Google Earth.

Fig. 3 Drawn by the author.

Fig. 4 Ancient maps are from Ma, Tingrui 马廷瑞 (AD ?–1542). “The Record of Shannxi 陕西通志.”

Fig. 5,6 Aerial photographs provided by the Academia Sinica, Taipei.

Lisbon Urban Allotments
A twentieth century cartographic account

Teresa Marat-Mendes, Patrícia Bento d'Almeida

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Abstract

Access to food constitutes one of the most basic daily human needs. Throughout history, cities have been shaped in order to accommodate the growth of food, namely in garden allotments. The shape and location of such areas have received differentiated levels of attention by city authorities, guided by specific planning paradigms, while determining different urban form arrangements over time, including those for the production of vegetable farming. This presentation exposes the first attempt of a legend proposal for the existing types of vegetation present in the "Plan of the City" for Lisbon, elaborated between 1948 and 1959. The identification of these vegetation elements is important as it provides an opportunity to better visualize the metabolic condition of the City of Lisbon, at a period of time when deep societal changes affected its urban and territorial arrangements. During the 1950s onwards, Lisbon testified the elaboration of a number of municipal plans, including new neighbourhoods, determining the reorganization of its housing fabric and the consequent vanishing of vegetation areas. The implications of these on the spatiality of the Lisbon food system are yet to be determined and urge for further investigation, namely on historical mapping sources as it is here attempted.

Keywords

green spaces, vegetation areas, urban sustainability, urban planning, urban metabolism, cartography.

How to cite

Marat-Mendes, Teresa; Bento d'Almeida, Patrícia, "Lisbon Urban Allotments. A twentieth century cartographic account". In Carola Hein (ed.), *International Planning History Society Proceedings*, 19th IPHS Conference, City-Space-Transformation, TU Delft, 5 - 6 July, 2022, TU Delft Open, 2022.

DOI: 10.7480/iphs.2022.1.6746

INTRODUCTION

The main goal of this paper is to introduce a possible proposal of legend for the "Plan of the City" for Lisbon, elaborated between 1948 and 1959, specifically in what concerns the various forms of green spaces and all other identified vegetation areas. During twentieth century, the Municipality of Lisbon acquired two sets of detailed cartographic plans for the city, elaborated at the scale of 1:1000. Namely, the "Lisbon Plan" elaborated between 1904 and 1911, by Júlio António Vieira da Silva Pinto (1860-?) and Alberto Sá Correia (1874-1937), and the "Plan of the City" for Lisbon, elaborated by *Instituto Geográfico e Cadastral* (Geographic and Land Registry Institute), between 1948 and 1959[1]. While the first one represents how the city of Lisbon was organized in the beginning of twentieth century, at a time when rural activities were predominant in Portuguese society; the second one shows how the city of Lisbon was organized in the mid twentieth century, after World War II, a period of time marked by extensive processes of urbanization. These two cartographic sources allow to visualize the built forms and land uses present in the municipality of Lisbon for the two specifics above identified periods of time.

Furthermore, these two sets of cartographic sources provide a rich compendium of information about the shape and location of Lisbon built area (buildings and open spaces) as well as a visualization of its several green spaces (including agricultural and garden allotments, woods, olive groves, vineyards, among others) present in the municipality of Lisbon, for the two specific periods of time when such plans were developed. Yet, the 'legends' which could support the reading and interpretation of the different symbols and colours which are present in each Plan charts were not yet located neither identified. Interpretating these maps depend however on the individual knowledge of those that attempts to read them.

In order to counteract such situation, a first attempt to define a possible legend for the "Lisbon Plan" (1904-1911), was conducted in the context of the research Project MEMO – Evolution of the Lisbon metropolitan area metabolism. Lessons towards a Sustainable Urban Future (PTDC/EMS-ENE/2197/2012)[2], between 2013 and 2015. MEMO Project aimed to evaluate the metabolic performance of Lisbon Metropolitan Area, from an historical perspective, while following a historic metabolic account for Lisbon in the beginning of twentieth century. Such metabolic account considered both statistical data, which allowed the evaluation of food production and consumption, but also cartographical data, in order to allow a metabolic visualization of the location and distribution of the land uses associated to such food information. MEMO project focused on the green spaces, agriculture and water elements that sustained Lisbon Municipality and its Metropolitan Area[3].

A second project, which involved also the two authors of this paper, entitled SPLACH Spatial Planning for Change (2017-2021), aimed to inform future urban policies towards a sustainable transition of the territory and its activities. The food system was one of the main elements under analysis by the SPLACH project. Thus, it was important to understand how green spaces, including areas of vegetation and urban agriculture, contributed together with other built and unbuilt areas to the metabolic performance of Lisbon and its Metropolitan Area. In order to do so, SPLACH mapped the contemporary food system of the Lisbon Region[4].

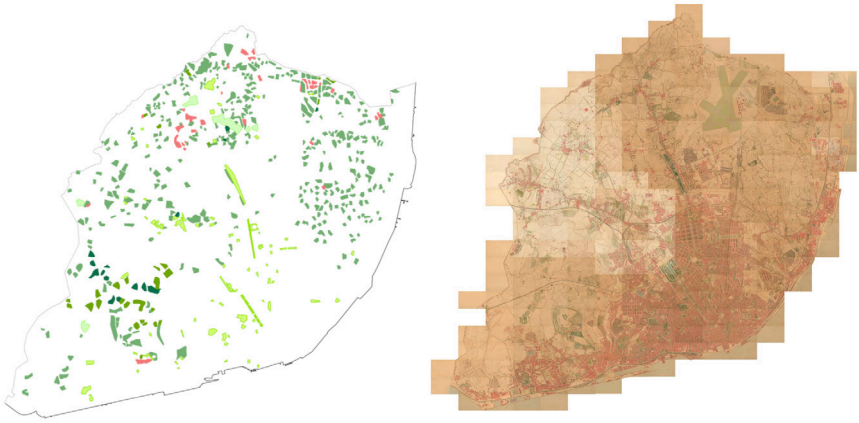

Fig. 1. Left: Map 22 from Water and Agriculture Atlas. Right: "Plan of the City" of Lisbon.

Under the scope of SPLACH project the period of 1940-s and 1950s was subject of particular analysis. This was a period of time when the first Master Plan for Lisbon was elaborated, for the City Council, by Étienne de Groër (1882-1952), a Polish-Russian origin architect-urbanist[5]. It was precisely in this period that a "Plan of the City" was elaborated. Yet, so far, without a legend supporting a comprehensive and specific reading of the several elements of this plan, including those related to vegetation areas.

Adopting the methodology proposed and applied by MEMO Project, SPLACH research project followed this methodology to depict a possible legend of the several green spaces included in the "Plan of the City" of Lisbon (1948-1959).

Therefore, this paper describes: i) the cartographic sources which have informed the present analysis; ii) the comparative analysis of vegetation areas identified in MEMO Project and in the "Plan of the City" of Lisbon (1948-1959), for two specific windows; and iii) the proposal of a possible legend of different types of vegetation areas for this last plan.

CARTOGRAPHIC SOURCES

The analysis which supported the elaboration of a possible legend of different types of vegetation areas for the "Plan of the City" of Lisbon (1948-1959), was performed over two specific sources, namely: 1) 'Map 22 - Crops in Lisbon Municipality' from the *Water and Agriculture Atlas,* elaborated in 2015[6]; and the 2) "Plan of the City" of Lisbon[7], elaborated between 1948 and 1959.

The 'Map 22 - Crops in Lisbon Municipality' incorporates the *Water and Agriculture Atlas: Lisbon Region 1900-1940*, produced in the scope of the Research Project MEMO. This map was

elaborated with information extracted from the "Carta Militar de Portugal" (SCE, 1937-1949), at scale 1:25.000. Part of this cartographic source covers the municipality of Lisbon, included in maps numbers 417 (1946) and 431 (1949). The "Carta Militar de Portugal" integrates a legend, composed by several graphical and coloured symbols, which represent different infrastructures and land uses. Based on this cartographic record, it was then possible to identify six specific categories of vegetation areas present in the Municipality of Lisbon. Such information was georeferenced, through the Geographic Information System, allowing the collection of a database of types of vegetation. Such database includes six specific categories of vegetation: Gardens or others; Olive trees or others; Eucalyptus or others; Woods; Pinewoods; and Vineyards. Map 22 of the above identified Atlas, offers the distribution areas (in the form of polygons) for those six categories of vegetation within the municipality of Lisbon. The delimitation of these polygons followed the perimeter defined by a set of identical symbols.

The relevance of Map 22 rests on the fact that it allows to identify, for the period time between 1940s and 1950s, through its legend and representation, the agricultural purposes and its respective type of vegetation and their location within the municipality of Lisbon.

Regarding the "Plan of the City", this is composed by a total of 242 individual maps elaborated at the scale 1:1.000, which cover the entire area of the municipality of Lisbon. Since the legend of the "Plan of the City" was not yet localized, we propose here to consider Map 22 of the above identified Atlas as the basis for the identification of the six types of vegetation areas.

Fig. 2. Identification of the two study areas over superposition of the sources of Figure 1.

Fig. 3. Selection of an area of "Plan of the City" of Lisbon (left) and its overlay with the vegetation areas identified in Map 22 for the same area (right)

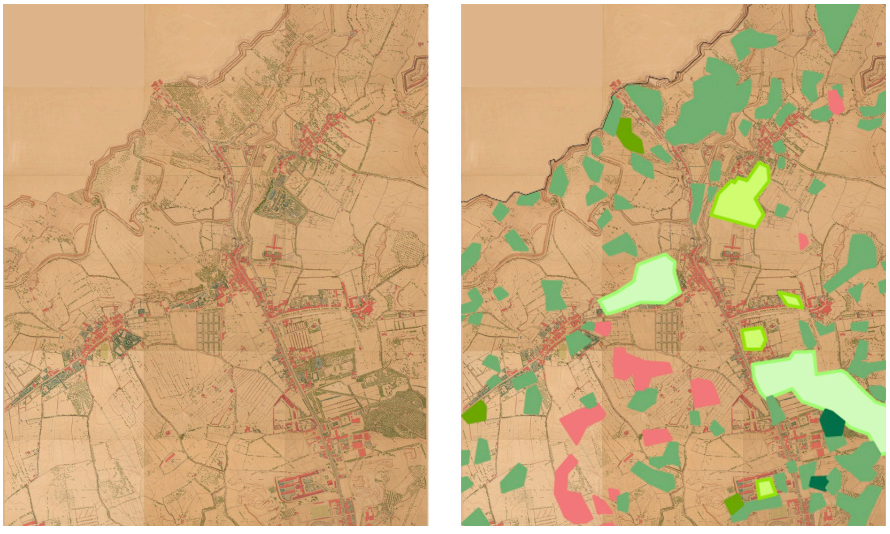

Fig. 4. Selection of an area of "Plan of the City" of Lisbon (left) and its overlay with the vegetation areas identified in Map 22 for the same area (right)

The comparative analysis of the two above specific areas have allowed us to identify six different types of vegetation areas representation, which match with the green spaces previously identified in the scope of MEMO Project. These are the same vegetation areas identified

for the *Water and Agriculture Atlas,* through the previous georeferentiation of the green areas identified in the "Carta Militar de Portugal" (SCE, 1937-1949).

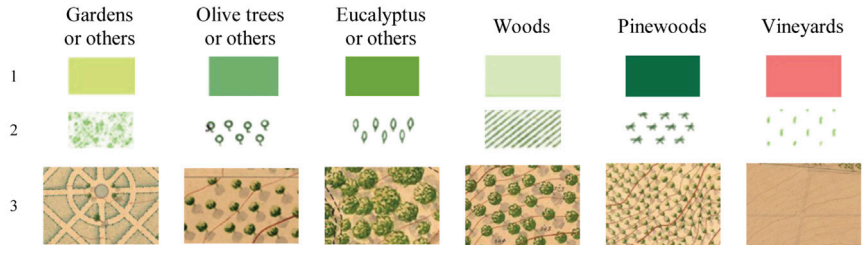

Fig. 5. A comparative analysis of types of vegetation extracted from the analysed sources. 1. As identified in *Water and Agriculture Atlas*. 2. As identified in "Carta Militar de Portugal". 3. As identified in "Plan of the City" of Lisbon (1948-1959).

Figure 5 indicates those six types of vegetation, including: 'Gardens or others', 'Olive trees or others', Eucalyptus or others', 'Woods', 'Pinewoods', and 'Vineyards', according to the symbols indicated in the "Carta Militar de Portugal" (SCE, 1937-1949) legends (row number 2 of Figure 5) and how these were systematized in the *Water and Agriculture Atlas* (row number 1 of Figure 5). Finally, row number 3 of Figure 5 identifies how these types of vegetation are represented in the "Plan of the City" of Lisbon (1948-1959).

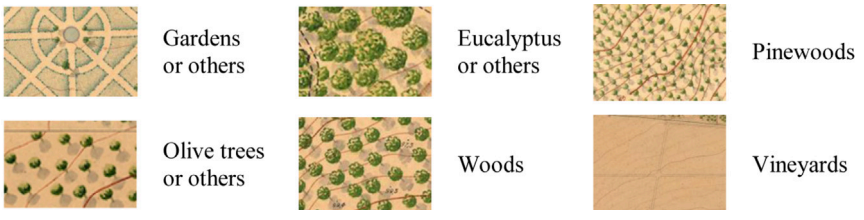

Fig. 6. A legend proposal of types of vegetation for the "Plan of the City" of Lisbon (1948-1959)

A LEGEND PROPOSAL OF TYPES OF VEGETATION FOR THE "PLAN OF THE CITY" OF LISBON (1948-1959)

The following figure illustrates a possible legend of types of vegetation for the "Plan of the City" of Lisbon, as concluded from the comparative analysis in the previous section of this paper. These illustrate the six identified types of vegetation, and the graphical representation through which, each one is represented within the "Plan of the City" of Lisbon. These includes 'Gardens or others', 'Olive trees or others', 'Eucalyptus or others', 'Woods', 'Pinewoods', and 'Vineyards'. The graphical representation of each of these types of vegetation varies in size and concentration of symbols.

CONCLUSIONS

This paper has allowed to identify the first attempt of a legend of types of vegetation present in the "Plan of the City" of Lisbon. This was an important task as it allows to better ascertain the specific various forms of green spaces and types of vegetation present in the municipality of Lisbon for the period of time under analysis. Besides the identified types of vegetation, it is now also possible to identify their distribution and respective areas. These steps are important as they are expected to contribute to visualize the metabolic performance of Lisbon Municipality at a time when the rate of urbanization was gaining great expression within twentieth century Portuguese Urban History. This study complements a huge amount of research on allotments, gardens, and urban farming which has been conducted in different countries, wherein focused on the specific territory of Lisbon. Our main goal here is based on the visualization of historical mapping with the aim to promote potential future readings about the environmental performance of Lisbon urban planning, towards new sustainable urban policies.

ACKNOWLEDGEMENTS

The authors would like to thank Sara Lopes, assistant researcher for Project SPLACH, for the support in the preparation of the images presented in this paper. The authors would also like to thank the archive *Gabinete de Estudos Olisimponenses* to allow the reproduction of the cartography included in this paper. The work here presented was supported by grants SFRH/BPD/117167/2016, financed by national funds of the Portuguese Foundation for Science and Technology (FCT) and the community budget through the European Social Fund (ESF); and POCI-01-0145-FEDER-016431 financed by the European Structural and Investment Funds (ESIF) through the Operational Thematic Program for Competitiveness and Internationalization (COMPETE 2020) in its European Regional Development Fund and by National Funds through the Foundation for Science and Technology Portugal (FCT).

DISCLOSURE STATEMENT

No potential conflict of interest was reported by the author.

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nomic Change and Territorial Studies. Her main research interests include archivism, urban and architectural contemporary history. Patrícia disseminated her research works through specialized journals, books and architectural exhibitions, also as a curator.

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Research on the Formation and Development of the Area Centred on Jiyu Gakuen, focusing on the founders' Philosophy

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Abstract

In this study, we analyzed the formation and development of the area, focusing on the philosophy of those who created the area as one of the key points that led to the exposure, preservation, and transmission of cultural property values. The target area is centred on Jiyu Gakuen, located in Minamisawa, Higashikurume City, Tokyo. In Ikebukuro, the campus was created by the fusion between the philosophy of the couple of Motoko Hani and Yoshikazu Hani, the founder, and the architecture designed by Frank Lloyd Wright. Later, the philosophy was embodied through the school's social activities. After moving to Minamisawa, the new school town was built based on Hanis' philosophy. A multilayered community carried out the campus, the surrounding area, and the school town. The philosophy was developed into people who understood Hanis' philosophy. The architecture designed by Arata Endo, who understood Hanis' philosophy, became part of the area's landscape. After WWII, the region's urbanization transformed the school from an entity with urban elements to one that preserved the original regional landscape. Education and architecture were passed on to the next generation, who understood the philosophy. In recent years, the developed philosophy was clearly stated: cultural heritage and clarification.

Keywords

Philosophy, Garden City, Jiyu Gakuen, School Town, Settlement

How to cite

Genda, Yuta; Nagano, Masayoshi; Nakajima, Naoto; "Research on the Formation and Development of the Area Centred on Jiyu Gakuen, focusing on the founders' Philosophy ". In Carola Hein (ed.), *International Planning History Society Proceedings*, 19th IPHS Conference, City-Space-Transformation, TU Delft, 5 - 6 July, 2022, TU Delft Open, 2022.

DOI: 10.7480/iphs.2022.1.6514

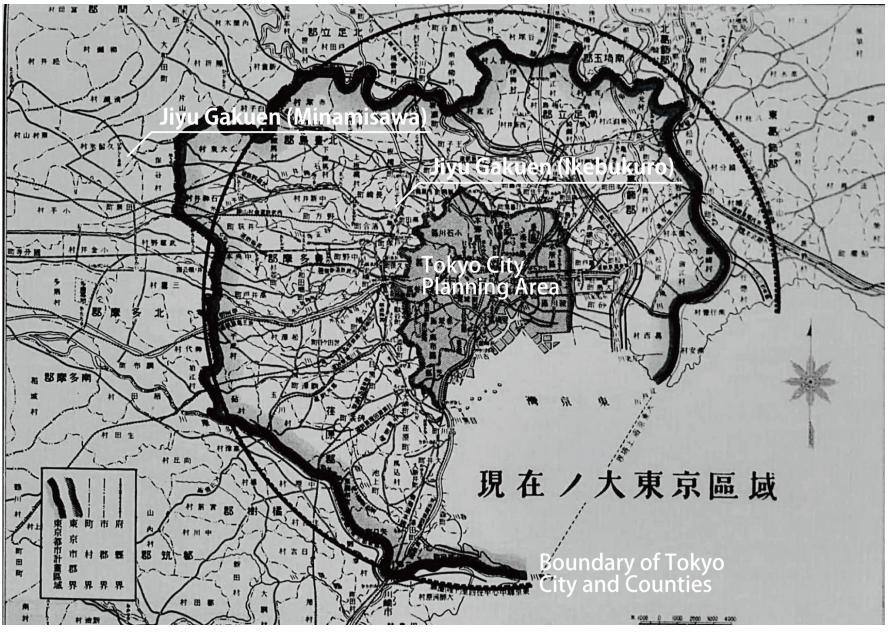

Fig. 1. Great Tokyo area (Around 1923).

1. INTRODUCTION

1.1 BACKGROUND AND OBJECTIVES

In Japan, areas formed in the modern era based on the garden city philosophy introduced from abroad have been recognized as an indispensable subject for discussions on modern urban history. On the other hand, the environment is disappearing, including its cultural property value. Understanding their historical value while focusing on Japan's garden city philosophy localization may help stop it. This will help us understand today's value of the garden city philosophy. Therefore, this study aims to clarify some aspects of the localization of the garden city philosophy that is still being elucidated. The analysis will focus on the philosophy which exists in these planned areas. The philosophy is related to regional formation and development and is one of the key points leading to the cultural property values' formation, preservation, and transmission.

1.2 TARGET SETTING AND OVERVIEW

The target area is the school town centred on the educational Institute "Jiyu Gakuen," located mainly in Minamisawa, Higashikurume City, Tokyo. Jiyu Gakuen was launched by Motoko Hani (1873-1957) and Yoshikazu Hani (1880-1955). The school town (hereafter referred to as "Minamisawa Gakuen-Cho" or "Gakuen-Cho"), adjacent to Jiyu Gakuen, was formed under

the influence of the garden city philosophy. The area is considered to have the following conditions for analysis: the institute, which had the philosophy related to the area's formation and development, continues to be located in the area, and the urban community did not exist before the school town was formed in the area. Therefore, the subject is appropriate for the study. (Figure 1)

1.3 POSITIONING AND METHODS OF THE STUDY

Research on the garden cities in Japan has focused on cities developed by railroad and real estate companies[1,2,3]. Research has also been conducted on the transformation of suburban residential areas[1,2] and the formation of university towns[5]. However, research on cities influenced by the Taisho New Education Movement, especially Jiyu Gakuen, has been not common. The existing research on Jiyu Gakuen's school towns has been published in the book "Suburban Residential Areas in Modern Japan[6]." Moreover, Jiyu Gakuen's school history book "100 Year History of Jiyu Gakuen[7]" describes how they were formed. This study is novel because it analyzes the formation and development of the philosophy that contributed to the formation of the area over time. The study will use literature, historical documents, discourses of people involved, drawings, etc. The magazine "Fujin-no-Tomo" and materials from Fujin-no-Tomo's collection[8] are essential references. The analysis will focus on the campus, the school town outside the campus, and the surrounding area. It will include research and analysis focusing on social conditions, school policies, related people and organizations, architectures, etc.

2. OVERVIEW OF JIYU GAKUEN

2.1 OUTLINE OF JIYU GAKUEN

The history of Jiyu Gakuen is detailed in "100 years of Jiyu Gakuen[8]." The couple of Motoko Hani and Yoshikazu Hani decided to further achieve their goals as Christians and developed their activities through publishing and education with the death of their second daughter Ryoko in 1906. In 1908, they launched the magazine for women, "Fujin-no-Tomo," using their home as the publishing office. Jiyu Gakuen was founded near Ikebukuro Station in 1921. It was moved in stages to a new suburban location near Tanashimachi Station (later Hibarigaoka Station) from 1930. In the same year, "the Zenkoku Tomo-no-Kai, an organization ("Fujin-no-Tomo" readers association)" was also established. The three organizations created by Hanis, Fujin-no-Tomo, Jiyu Gakuen, and Tomo-no-Kai, continue to work together.

2.2 TAISHO NEW EDUCATION MOVEMENT

From the Taisho era (1912-1926) to the early period of the Showa era (1926-1989), it was able to compare and contrast various educational methods advanced around the world in Japan. The Taisho New Education was characterized by its criticism of conventional educa-

tional methods and its insistence on respecting the individuality and initiative of the child[9]. The Taisho New Education was implemented by schools affiliated with normal and private schools. In addition, the new education was intensely conscious of the environment. Hiromichi Ueno says that one of New Education's environmental awareness is moving schools to new environments like the countryside or mountains for education, rather than cities[10]. This type was combined with the garden city concept, which also came from abroad. It became a school town with a garden city philosophy and centred on educational institutions in Japan.

2.3 THE FOUNDING PERIOD OF JIYU GAKUEN (1921-1929)

Around 1910, Ikebukuro was perceived as a healthy suburb and an educational district, unlike today. Ikebukuro was gradually becoming urbanized and was expected to attract new middle-class residents.

In 1913, Hanis rented an area of 2,000 tsubos in Takada-machi, Ikebukuro, near Ikebukuro Station, and set up a residence and workplace of about 40 tsubos[11]. In 1921, they founded Jiyu Gakuen, an ideal place for education as a girl's school with supporters, mainly readers of Fujin-no-Tomo. Frank Lloyd Wright designed the school's architecture through Arata Endo's mediation, a fellow member of Fujimi-Cho Church with Hanis and a Wright's disciple.

The purpose of founding Jiyu Gakuen was to provide the necessary education for women of the new era.[13] Although Hanis regarded the school's founding as a project of their Christian faith, they did not directly advocate Christianity in its establishment[13]. Motoko Hani wanted education to be a place where children could create a new life for themselves, filled with "a revolutionary homely and friendly mood."[14] She cited the reason as "the home-school" that Frank Lloyd Wright's aunt ran like a home[15]. The Jiyu Gakuen's school architecture took on a residential form[16]. The similarities between Hanis' and Wright's philosophies made it possible to express them in the architectural space.

One of the literature department's purposes was for those who wished to have the opportunity to be involved in social work[16]. The lecturer for the course "Social Work" was Takayuki Namae, a member of the Regional Bureau of the Ministry of Home Affairs. The bureau's members wrote the book "Denen-Toshi (Garden City)[17]" (1907), which introduced Garden City and many social projects in Japan as one social reform movement. He had a deep knowledge of the garden city, and was friends with Ebenezer Howard.

When the Great Kanto Earthquake hit Japan in 1923, Jiyu Gakuen conducted various activities to help the sufferers and strengthened the need for social programs. In 1925, a report of Takada-Machi located the school as the graduation work was published.

After the earthquake, the area around the Ikebukuro campus became increasingly residential and too cramped. So Yoshikazu Hani soon began searching a large land[18].

3 FORMATION AND DEVELOPMENT OF THE AREA CENTERED ON JIYU GAKUEN IN MINAMISAWA

3.1 MINAMISAWA GAKUEN-CHO DEVELOPMENT STUDY AND BUILDING PERIOD (1924 AND 1925)

In 1924, Hanis advocated a new town centred on Jiyu Gakuen, initially with the school's farm, playground, forest school, and an ideal residential area[19]. They looked for land along the train line[20]. As a result, he got an area of approximately 100,000 tsubos that used to be a pine forest near Tanashimachi Station[21]. The relocation area was rural and had no urban environment.

In May 1925, an intent letter was distributed to the parents and guarantors of Jiyu Gakuen. In July 1925, Motoko Hani said in Fujin-no-Tomo that she would like to ask the parents of Jiyu Gakuen firstly to purchase land and the readers of Fujin-no-Tomo who connected to Jiyu Gakuen secondly[22]. In the following August issue, Motoko Hani asked, "What kind of people will live there? It is an important question[23]." On the other hand, she also proposed the idea of weekend villas.[24] It can be inferred that she did not need the area to be converted into a residential area immediately.

Of the purchased land, the residential area was placed on the flat land, and the campus was placed on the undulating land at the back of the residential area. Gakuen-Cho was developed using the existing topography and roads. The new road was dug down, and a dirt road was built[25]. Yoshikazu Hani described that the lots were conventional grids[26]. It is characteristic that Yoshikazu expected prospective buyers to leave existing trees in the lots for the overall townscape[27].

3.2 MINAMISAWA GAKUEN-CHO DEVELOPMENT PERIOD (1925-1930)

During this period, there was a succession of construction projects in school town: the relocation to Kichijoji of Seikei Gakuen (1924), Seijo Gakuen (1925), and Tamagawa Gakuen (1929).

Campus: In 1930, an elementary school was moved to the Minamisawa campus. Arata Endo designed the architecture. The school emphasized the importance of Minamisawa's rich natural environment. "Educational practices in line with daily life," which Motoko Hani aimed for, was promoted.

Surrounding Area: After the students took special classes about social work around 1927, they started preparing "the Jiyu Gakuen Settlement" as one of the rural social reform movements in 1929. In 1930, the settlement house designed by Arata Endo was constructed at the northern end of the campus, which faced the village. The settlement official later said, "we are trying to build a bridge of reconciliation between two societies which seem the extremes exist so that there will be no unnecessary friction or misunderstanding between them as a progressive society "Jiyu Gakuen" moves into the purely agricultural village "Ku-

rume Village (later Higashikurume City)." The settlement was chosen[28]" It says that they would use the settlement to build relationships with the local community. During the year, they opened the settlement during the off-farm season and a day-care centre during the busy farming season.

Gakuen-Cho: In 1925, lots near Jiyu Gakuen, over 250 tsubos and a unit price of 12-15 yen per tsubo were put on the market and almost sold out. In 1926, 1927, and 1928, other lots, including 100 to 150 tsubos, were put on the market.

Therefore, in 1930, a town with three characteristics was born in Minamisawa: the Jiyu Gakuen Campus with its philosophy, the school town embodying the philosophy, and the settlement transmitting the philosophy. Part of the philosophy was embodied through the architecture designed by Arata Endo and the nature of the school town.

3.3 JIYU GAKUEN RELOCATION PERIOD (1931-1945)

The surrounding farming area underwent a gradual transformation under the influence of Nakajima Aircraft Manufacturing's affiliated factory installation from 1938, etc.

Campus: In 1933, a plan to relocate the entire Jiyu Gakuen was announced. In 1934, Girl's Department dining hall, auditorium, and gymnasium were completed, and the entire Jiyu Gakuen moved to Minamisawa. In 1935, Boy's Department was established, and in 1936, the Gymnastics Hall was completed. Arata Endo designed them.

Surrounding Area: After 1930, at the settlement, the Jiyu Gakuen Cooperative Association purchased village produce directly from the village and sold it to the various branches, and taught farmers their side jobs[29]. The settlement also provided a school for children during the busy farming season, a school for young women during the agricultural off-season, a school for elementary school children, a clinic, and a health counselling centre.

Gakuen-Cho: Around 1935, the lots of the final fourth phase were put on the market[30]. The first phase was about 80 lots, the second was 60, the third was 50, the fourth was 30, and the total was about 220[31]. The unit price per tsubo was generally higher in the third phase, followed by the first, second, and fourth, and corner lots were costly[32]. Plot sizes ranged from 100 tsubos to 1,000 tsubos. "Fujin-no-Tomo-Sha (the company published "Fujin-no-Tomo")" Gakuen-Cho Management Department handled administrative procedures for land sales. A standing timber fee was charged according to the number[27]. (Figure 2)

Many land purchasers were highly educated people and lived in Tokyo[33]. In 1928, five houses were completed. The number of residents was still small. Moreover, in February 1935, the number gradually increased to 35 housing units and 131 persons[34]. The houses were built in only about 20% of all lots. The houses designed by Arata Endo increased: the Kurosaki Residence (completed in 1928), the Tanaka Residence (1932), the Goro Hani Residence (1935), the Ikeguchi Residence (1936), the Komiya Residence (1937), and the Matsui Residence (1938) [35]. The design by Arata Endo became one of the local landscape elements.

As for the community of Gakuen-Cho, the Minamisawa Gakuen-Cho Housing Association existed in 1930[36]. They did the application for residents' non-fare train tickets[37], the appeal on the noise problem at the Nakajima Aircraft Works' engine testing facility[38], etc. The August 1932 issue of Fujin-no-Tomo described Gakuen-Cho as a "neat town where neighbours can live together with a spirit of peace and mutual help[39]." The August 1936 issue of Fujin-no-Tomo described that the area was an educational and modern residential area, the residents shared a simple and sound philosophy, lifestyle, and hobbies, and this town's strongest spirits were fraternity and cooperation[40]. The pamphlet of the lots' fourth phase described that they took turns being town commissioners, proceeded in consultation with the entire town, and there were no regulations or organization[41]. It is an example of the philosophy that the Tanaka Residence had a communal cooking kitchen. "Tomo-no-Kai (the Friend's Association, a group of "Fujin-no-Tomo" readers)" was also active in Minamisawa. Minamisawa's Tomo-no-Kai wanted to get to know the rural mothers better, and a clothing sale was held at the settlement house in 1930[42]. In 1932, a medical clinic was established in response to the settlement[43]. They represent that the town by residents who shared Hanis' principles was realized to some extent.

As described above, Hanis' philosophy was developed multilayered by several organizations and communities that understood the philosophy. Part of the philosophy was also embodied through the design of Arata Endo.

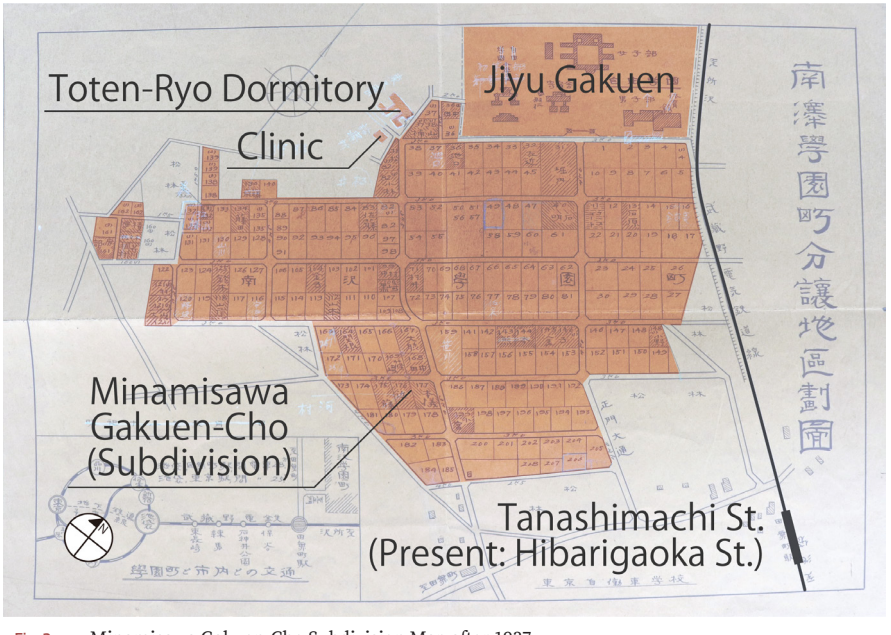

Fig. 2. Minamisawa Gakuen-Cho Subdivision Map after 1937.

3.4 AFTER WWII (1945-THE 1950S)

Hanis and Jiyu Gakuen worked to restore their liberal education during the chaotic period after WWII. When a new senior high school, based on the new school system, was approved for establishment in 1948, the Christian spirit was specified for the first time in the academic regulations. In 1949, the Jiyu Gakuen College was opened. They also created various other short-term educational schools to expand educational opportunities.[44]**Campus:** In 1949, the mountain forests and residential areas centred on the school, about 85,000 tsubos, became a no-hunting zone[45]. In 1950, the on-campus dormitory was eliminated[46]. Thus, awareness of the natural environment within the school grounds became stronger.

The 30th-anniversary commemorative projects took place from 1949 to 1952. They included the completion of the architecture for the Boy's College, the expansion and renovation of the Seifu-Ryo Dormitory, the Economics Classroom, and the completion of the dining hall for the Boy's College[47]. (Photo 1)

In 1955, Yoshikazu Hani passed away, and in 1957, Motoko Hani passed away. In 1957, Keiko Hani, the third daughter of Hanis, became the school's second principal, and Teiyu Amano became the third chairman. The school management changed from the founders to concerned parties who shared the founders' philosophy.

Surrounding Area: In1948, students chose the theme "My living Village" as their graduate study. They conducted the schools of clothing, food, and housing during the agricultural off-season, the infant health counselling centre, and the rural infant living group. Meanwhile, they became interested in a village house with various functions in the village and presented the plan under the guidance of Arata Endo[48]. Jiyu Gakuen became conscious of the regional community again after WWII.

In 1947, as part of their grauate studies, students held the schools of clothing, food, and housing at the locations not in Minamisawa. In 1948, the schools were held in Kurume Village. From 1949 to 1952, Tomo-no-Kai held the schools across Japan, including Kurume Village. But, in Kurume Village, their need disappeared due to the decrease and dual occupation of farmers and the region's urbanization, as discussed later in this paper.

In 1956, students held an out-of-door children's party in Kurume Village[49] and opened two agricultural day-care centres with an average 88 children per day and eight of whom were taken care of each day[50].

Gakuen-Cho: After WWII, there were property taxes (1946), inheritance taxes (1947), and wealth taxes (1951). In many cases, house owners could not maintain their land and houses due to the taxation system and had to pay property to the government[51]. In 1950, Motoko Hani attended the Minamisawa Tomo-no-Kai's meeting and asked them to clean up in Gakuen-Cho for Jiyu Gakuen's 30th anniversary in 1951[52]. It shows that the Tomo-no-Kai was active in Gakuen-Cho after WWII.

Fig. 3. Jiyu Gakuen (Minamisawa) (around 1963).

3.5 PERIOD OF ECONOMIC GROWTH (THE 1960S-1980S)

The total population of Higashikurume City surged from approximately 20,000 in 1960 to over 100,000 in 1980. During this period, huge apartment complexes increased in the city. Especially Hibarigaoka-Danchi with 2714 units was constructed near Gakuen-Cho in 1960. (Figure 3)

Meanwhile, the number of farm households in the area declined slowly from 765 in 1950 to 531 in 1980. The number of full-time farmers declined sharply from 553 in 1950 to 60 in 1980, while the number of dual-income farmers increased. The percentage of farm households in the population decreased from 50.1% in 1950 to 1.6% in 1980. After the 1950s, the area was converted from a farming village to a suburban residential area. It indicates that Jiyu Gakuen's position changed from a newcomer to an oldcomer in the area.

At Jiyu Gakuen, Keiko Hani, Teiyu Amano and officials, who knew Hanis' educational principles and past activities, took steps to strengthen the previous philosophy. In addition, despite the period of population growth in Japan, the number of students in each grade remained the same.

Campus: Architecture was extended and renovated from time to time with the 50th and 60th-anniversary commemorative projects. Designed by Raku Endo, the second son of Arata Endo and a graduate of Jiyu Gakuen, the architectures were constructed as follows: the Physics Classroom of the Boy's College in 1960, the Hani Memorial Library in 1966, the Children Life Group's architecture in 1967, the former Toten-Ryo Dormitory in 1973, etc. These architectures have reinforced the school's internal philosophy.

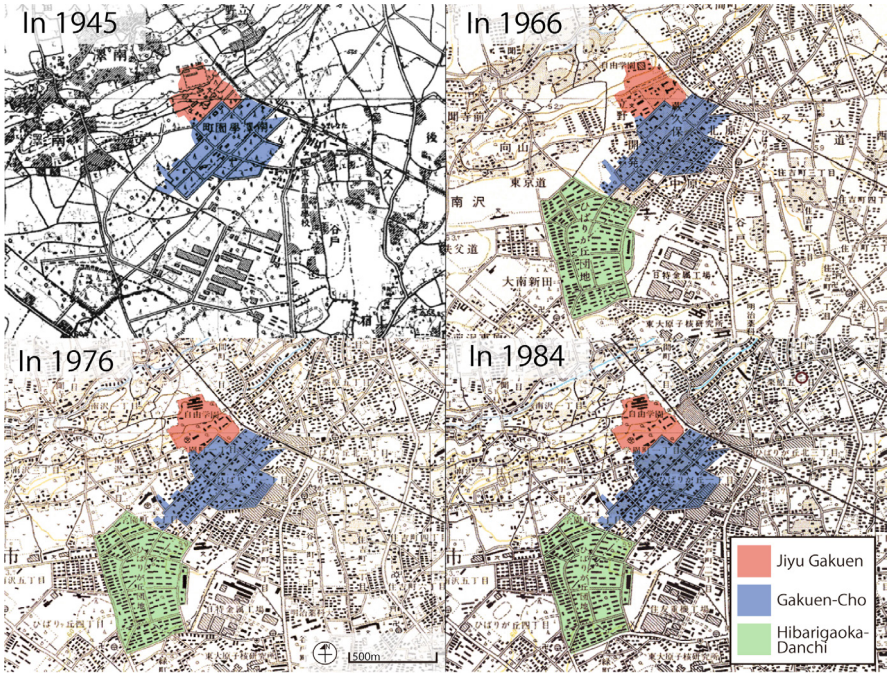

Fig. 4. Minamisawa Map from 1945 to 1984.

Surrounding Area: During the period, the school provided childcare and early childhood education to the surrounding community through some activities. The school wanted to contribute to the local community through children, like in the past. From 1954, the natural environment initiative such as the gnat's research, the water quality, flood control research in Tatsuno River, etc.,[53] were conducted. In the 1970s, books on the natural environment of the surrounding area by the school's teachers were published[54]. The school's increased position in protecting the area's natural environment resulted in a structure that contrasted with the increasing density of the surrounding residential areas. It means that the school has evolved from existence with an urban element to an existence that preserved the area's original landscape.

Gakuen-Cho: In 1974, the Gakuen-Cho Neighbourhood Association in Higashikurume City established a constitution and decided the chairman's term of office would be two years and reappointment would be possible. Some of the subsequent chairmen served for more than ten years. The base for activities overtime was established.

In 1951, Arata Endo passed away. During the period, Raku Endo designed about 10 architectures, and Toh Endo (Arata's third son) designed about 15 architectures in the Gakuen-Cho area. Raku and Toh were graduates of Jiyu Gakuen, and the clients included some of their classmates. Their architecture shared similarities with their father's design, such as the hanging wall, the cream colour and wood, the horizontal lines of the hip wall, the gate, etc.

3.6 AFTER ECONOMIC GROWTH (THE 1990S ONWARD)

The average daily ridership of Hibarigaoka station remained around 33,000. The region's development has slowed down since the 1990s.

At the school, Gyo Hani (nephew of Yoshikazu Hani) became the third principal in 1990 and rediscovered the importance of placing Christianity at the school's foundation and aimed to be actively involved in the international and local communities[55] In 1999, the College was reorganized as a four-year co-educational institution. In 2000, the principal term of office was set at four-year.

Campus: Since 1999, some architectures have been designated as Tokyo Cultural Properties. In 2020, the Minamisawa Campus was selected as DOCOMOMOMO Japan Selected architecture. The cultural property values were expressed in not only nature but also the architecture.

Surrounding Area: In 2011, the former Toten-Ryo dormitory was renovated to open the local community facility "Club House Shinonome-Ryo." The architecture connects the school and the community with the Gakuen-Cho Neighborhood Association's office, coffee shop, exhibition space, rental rooms, various activities places for children and families, etc.

Gakuen-Cho: The Gakuen-Cho Neighborhood Association in Higashikurume City strengthened its disaster prevention activities after the Great Hanshin-Awaji Earthquake in 1995. In 2006, The Association launched the first issue of its regional newspaper "Kawara-Ban." After following local environmental issues in 2007, the Association enacted the Gakuen-Cho Charter in 2008. The charter outlines are that existing trees should be preserved as much as possible in new construction and development, tree planting and hedges should be encouraged even in small spaces, and good living manners should be observed. The Association works to protect the local environment by explaining the charter and making remarks based on the charter at the time of real estate development.

From the 1980s, Architects who were members of the design firm of Arata Endo's son built architecture in Gakuen-Cho: Akitaka Miyai, a former member of Toh Endo's architectural office, Yoko Fujikawa, a former member of Raku Endo's architectural office, etc. The architectural philosophy was passed down from Arata Endo's sons to his apprentices. In addition, companies that constructed architecture designed by Endo's son and architects not associated with Endo also began to share design codes with architecture designed by architects associated with Endo in Gakuen-Cho. The architectural philosophy, which began from Arata Endo, and Frank Lloyd Wright by extension, was propagated further.

4. CONCLUSION

In Ikebukuro, the space of Jiyu Gakuen was created by the fusion of Hanis' philosophy and the architecture of Frank Lloyd Wright. Later, they understood social work to better the local community through the school's activities. In Minamisawa, a new town was created based on

Hanis' philosophy. A multilayered community carried out the Jiyu Gakuen campus, the surrounding community, and the formation of the school town. The philosophy was developed by related persons who understood Hanis' philosophy. The architecture designed by Arata Endo which understood Hanis' philosophy, became part of the area's landscape. After WWII, the region's urbanization transformed the school from urban elements to the original regional landscape of the region. Education and architecture were passed on to the next generation, who understood the philosophy. In recent years, those who share the philosophy have further developed. There was a renewed awareness of the connection between the school and the local community. The developed philosophy was clearly stated: making the architecture's cultural property in the school area and establishing the Gakuen-Cho charter in Gakuen-Cho. Thus, it can be said that the philosophy is transformed by the generational change of those who had the philosophy and by the region's urbanization. It was also important that Jiyu Gakuen, the core of the philosophy, continued to be in the region to prevent the philosophy's disappearance. Depending on the social changes in the future, it may be effective to develop initiatives to share the philosophy or clarify it.

Future research will include more detailed surveys of the area and comparisons with other areas and will lead to proposals that will contribute to the preservation and succession of the local environment.

ACKNOWLEDGEMENTS

We would like to take this opportunity to express our gratitude to the Gakuen-Cho Neighborhood Association, Fujin-no-Tomo-Sha, Akitaka Miyai, Architect, and Tami Murakami, Jiyu Gakuen's archivist, and others for their generous cooperation in this research.

DISCLOSURE STATEMENT

No potential conflict of interest was reported by the author.

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10. Calculated based on Figure 1. Parcel numbers go up to 208, but there are several numbers that are separated, such as 161(1) and 161(2).

11. Calculated based on Fig. 1 and "Jinmei betsu daichou (Name list)" Collection of Fujin-no-Tomo-Sha.
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5 JULY: SESSION 3.3

MAPPING HISTORY.

Chair: Yanchen Sun

Study on the Changing of Traditional Urban Fabric in Shanghai Old Town

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Abstract

During the regeneration process of historic built environment in the megacities like Shanghai, traditional urban fabric and modern urban fabric have different spatial characteristics. The traditional urban fabric in Shanghai, which is represented by Lilong houses, can offer highly shared public and semi-public spaces in daily life. Unfortunately, after nearly 20 years of large-scale renewal process, there is only about 40% of the traditional urban fabric retained in Shanghai Old Town, which deeply depends on the delineation and planning requirements of Historic Conservation Area. In the past two years, in the planning of core conservation zone, Shanghai tries a new reconstruction way by demolishing old house and building new house with similar height and density as the former ones, to maintain the urban fabric and improve the environment quality. Taking Luxiangyuan as an example, the spatial pattern was inherited to a certain extent, the style and the elements of new house echoed with Lilong buildings. This paper finds that confronting with the challenges of disappearing traditional urban fabric, the former planning and "fabric reconstruction" practice has certain limitations, such as the disappearance of the high sharing character of roads and alleys.

Keywords

Traditional Urban Fabric, Changing Process, Shanghai, Old Town

How to cite

Shan, Ruiqi; Zhang, Song; Li, Kaike; "Study on the Changing of Traditional Urban Fabric in Shanghai Old Town". In Carola Hein (ed.), *International Planning History Society Proceedings*, 19th IPHS Conference, City-Space-Transformation, TU Delft, 5 - 6 July, 2022, TU Delft Open, 2022.

DOI: 10.7480/iphs.2022.1.6467

INTRODUCTION

Among the different areas of historic city, the old city centre contains rich diverse characteristics and can provide high sharing spaces. Its value relies on the traditional urban fabric. As a main research object, traditional urban fabric relies on the definition of urban fabric from international debates. The similar attitude to what constitutes a building, as well as a repetitive division of land, similar height regulations, unified local form and a long lasting scale, all create the urban fabric[1]. Urban fabric is not only a specific, visible and operable physical object, but also connects political, economic and social level functional activities, and reflects the corresponding historic context and cultural atmosphere, thus shaping a city its unique characteristics[2]. So urban fabric can integrate with different morphological elements like blocks, roads, and buildings, reflects the overall special morphological characteristics of any region. Based on the spatial relationship formed by blocks, roads streets, and buildings, the urban fabric can be divided into two categories: traditional urban fabric and modern urban fabric. Each has different characteristics: traditional urban fabric is enclosed, dense, compact, and continuous, and the modern urban fabric is open, fragmented, diffuse, loose, discontinuous, heterogeneous, and disrupted[3] .

As any study of either urban fabric type is a kind of case-dependence research[4] , during the regeneration process of Shanghai built environment, there are two kinds of main urban fabric types occurred in Shanghai old town. The typical modern urban fabric is a closed defended island mainly contained high-rise residential buildings. And the typical traditional urban fabric is the Lilong housing block, which created a specific urban fabric type and image, and kept providing highly shared public and semi-public spaces in daily life. Existing studies have shown that Lilong Housing makes Shanghai traditional urban fabric unique. It contains specific values such as “small-scale space”, “close spatial connection”, and “semi-public linear space”. Its high sharing characteristics can promote the occurrence of various activities[5].

However, in the process of urban renewal and development, Lilong Housing without legal protection is often regarded as the target object of old district reconstruction, which means Lilong Housing is eliminated, and should be demolished. But existing studies paid less attention to morphological characteristics change and its value change of the historic area’s urban fabric. This studies focused more on its evolution process in the historic stage[6] , discussed the planning methods and countermeasures on specific buildings, streets and neighbourhoods[7], studied the architectural and public space design methods to realise sharing in historic area[8] and so on. In the “Historic Conservation Area” of Shanghai relating to urban conservation, a new kind of renewal mode has appeared which is called fabric reconstruction. The first case of this mode was take place in Shanghai Old Town, named Luxiangyuan Project. Its goal is to achieve the reconstruction plan, and preserve the characteristics of traditional urban fabric at the same time. However, the real impact of this new mode is still needed further study to examine whether it focused on the high sharing value of historic fabric.

METHOD & CASE DESCRIPTION

Through data statistics, literature and planning documents review, field investigation and interview, the protection plan and the effectiveness of latest "fabric reconstruction" renewal method was examined to find out whether the high sharing characteristics of the traditional urban fabric was maintained during historic built environment renewal process.

By understanding the spatial relationship of the blocks, streets and buildings formed historically, associated with the age and height of the buildings, the traditional urban fabric can be identified from historical maps and Google satellite images. The urban morphology of Shanghai has collage characteristics obviously. As the area where Shanghai was founded as a county in 1291, Shanghai Old Town was the only area in this collage city that reflects its 700-year development history from urban morphology. Shanghai Old Town is the root of Shanghai[9] . The low-rise buildings, narrow alleys, and winding streets, which form its urban fabric characteristics and help to shape the cultural characteristics[10]. Therefore, this study takes Shanghai Old Town as a case, studies the maintenance condition of traditional urban fabric and its designated protected streets. The Historic Conservation Planning for Shanghai Old Town approved in 2005 delineated the scope of the Shanghai Old City Historic Conservation Area. The conservation area was with a total area of 1.9 km^2. This paper will focus on this specific area.

THE FORMATION OF TRADITIONAL URBAN FABRIC

In Yuan Dynasty (1291), Shanghai changed from a town to a county. From then until the port opening in 1843, this area had been Shanghai's politics, economy, and culture centre. It was surrounded by city walls, had dense water networks and the roads were distributed along the river, representing a typical Jiangnan county feature from the perspective of urban form.

After being opened as a port, the concession rapidly made Shanghai a prosperous centre. By the 1920s, with the transformation of Shanghai into a Special Municipal and the launch of "Great Shanghai Plan", Shanghai Old Town had evolved from the political and cultural centre of the city to the edge of the metropolis[11].

From 1906 to 1914, by filling the rivers to build road, a free-form network of roads was created in Shanghai Old Town. The outer ring road was formed by demolishing the city wall from 1906 to 1914, to make better connection with concession and find more opportunities to promote the economy of old town. After the demolishment of city wall and the establishment of better roads system, the urban population increased and real estate developed. An abundant of Lilong housing influenced by the concession architecture appeared in 1920-30s in Shanghai Old Town, while the traditional Jiangnan -Style courtyard house were partially demolished or left vacant. Lilong housing became the main buildings of this area, and the organic road and street system made the uniqueness of traditional urban fabric in this area.

THE VALUE OF TRADITIONAL URBAN FABRIC AND ITS STRUCTURAL ELEMENT

According to the related studies and the Conservation Planning of the study area, the intertwined streets, winding lanes, diverse architecture types, and the complicated commercial market networks along the streets had formed the unique traditional urban fabric characteristics. The road system constructed by filling rivers, and the small-scale branching lanes system both reflected the formation process of traditional urban fabric in Shanghai old town. With the ring road (Renmin Road and Zhonghua Road) formed by the demolition of the city wall as the boundary, the Shanghai Old Town constitutes a centre area with clear boundary and relatively complete form. There were diverse architecture types inside this area, such as temples, Jiangnan traditional courtyards and mainly Lilong housing.

Conzen's research[12] on urban form shows that the most permanency factor of urban tissue (plan unit) is streets and their systems. The parcel of land with its buildings and open place undergo continuous transformation and replacement during the process of change[13] , but the shape and orientation of streets are relatively stable. Public places and streets are important, and the core value of public life is publicity. Different groups of people meet and communicate face-to-face there, which has educational and tolerant meaning[14]. 'The narrow, bent and shaded streets provide suitable public open space for the social activities of the local residents and their children. '[15]

In Shanghai Lilong housing block, there is usually one central lane and other side lanes connected to the central lane shaping the street system like a fishbone. And study shows that 'the central lane commonly provided all inhabitants a shared common space'[16] , through which residents can reach the appropriate side lane to enter their apartment. The central lane and side lane are both narrow, and are used differently by different residents, giving its high sharing character not only among the residents but also without isolation to the public. The lanes of Lilong housing is an important public and semi-public space with high sharing. It is a structural element that constitutes the traditional urban fabric. Therefore, it is necessary to maintain its direction, scale and network density to preserve its value of high openness and sharing.

THE CHANGING PROCESS AND THE CURRENT SITUATION OF TRADITIONAL URBAN FABRIC AND ITS STRUCTURAL ELEMENT

Before the founding of the PRC in 1949, the spatial form of Shanghai Old Town still maintained relatively distinct characteristics as before, only a bit of blocks were destroyed in the war and new dwellings had been built while kept similar fabric.

From 1949 to the 1990s, industrial layout and urban development in Shanghai were away from Shanghai Old Town, so it remained traditional urban fabric without huge changes inside the old town. The whole area kept the traditional urban fabric character.

In the 1990s, according to the roads planning proposed by its District Government, the reconstruction of main roads started since 1993. By 2000, the road network was basically formed. Within the old town range, the construction of two 40m-width roads with horizontal and vertical direction in the centre cut the whole area into four part. Meanwhile, the urban fabric of the study area was cut off. During this period, there were some single high-rise building reconstruction projects, such changes did not overturn the main morphological character, and most of the traditional urban fabric were retained, except the blocks along the main roads.

From 2000 to 2005, although the development of Pudong and the adjustment of administrative divisions of Huangpu and Nanshi Districts made Shanghai Old Town marginalized again, the urban central location made it high land value, resulting in the massive construction of high-rise residential buildings. The real estate projects similar with the suburb high-rise housing community appeared in the blocks along those widened roads in Shanghai Old Town.

In November 2005, the Shanghai Municipal Government approved the Historic Conservation Planning for the Shanghai Old Town Historic Conservation Area. After 2005, the changing speed of traditional urban fabric became slower obviously. However, in recent 2-3 years, a new kind of renewal mode called “fabric reconstruction” occurred under the regulations of the new-built building height in the Conservation Planning, such as Luxiangyuan project.

Based on the topographic maps and Google satellite maps, the analysis results show that until September 2019, the total area of the traditional urban fabric is about 75.08 hectares, accounting for 37.59% of the total area of Shanghai Old Town Historic Conservation Area. While the total area of modern urban fabric is about 61.28 hectares, accounting for 30.68% of the entire area in 2019. (Tab.1, Fig.1)

Sorts	Traditional fabric		Modern fabric		Greenland		Roads		Vacant areas	
	Area	Proportion	Area	Proportion	Area	Proportion	Area	Proportion	Area	Proportion
	hm²	%	hm²	%	hm²	%	hm²	%	hm²	%
Total	75.08	37.59	61.28	30.68	11.37	5.69	41.45	20.76	10.54	5.28

Table 1. Statistical table of current area and proportion of Shanghai Old City Historic Conservation Area.

In the process of transforming traditional urban fabric into modern urban fabric, it provided space for new real estate projects mainly through merging small plots and blocks, resulting great changes on a large scale. Thus, the former streets network disappeared completely with the demolition and reconstruction process. According to the roads layout of different years restored from historical maps, it shows that street and central lanes density has dropped from nearly 25km/km2 in 1949 to 19.7km/km2 in 2018, with a decrease of 20.95% (Tab.2, Fig.2).

Time	Streets amounts	Decrease percent (%)	Total length (km)	Decrease percent (%)	Streets dense (km/km2)	Decrease percent (%)
1949	240	-	49.59	-	24.92	-
2004	210	12.50	43.87	11.53	22.04	11.56
2018	169	19.58	39.22	20.91	19.70	20.95

Table 2. Statistical table of number variance in streets and alleys of Shanghai Old City Historic Conservation Area

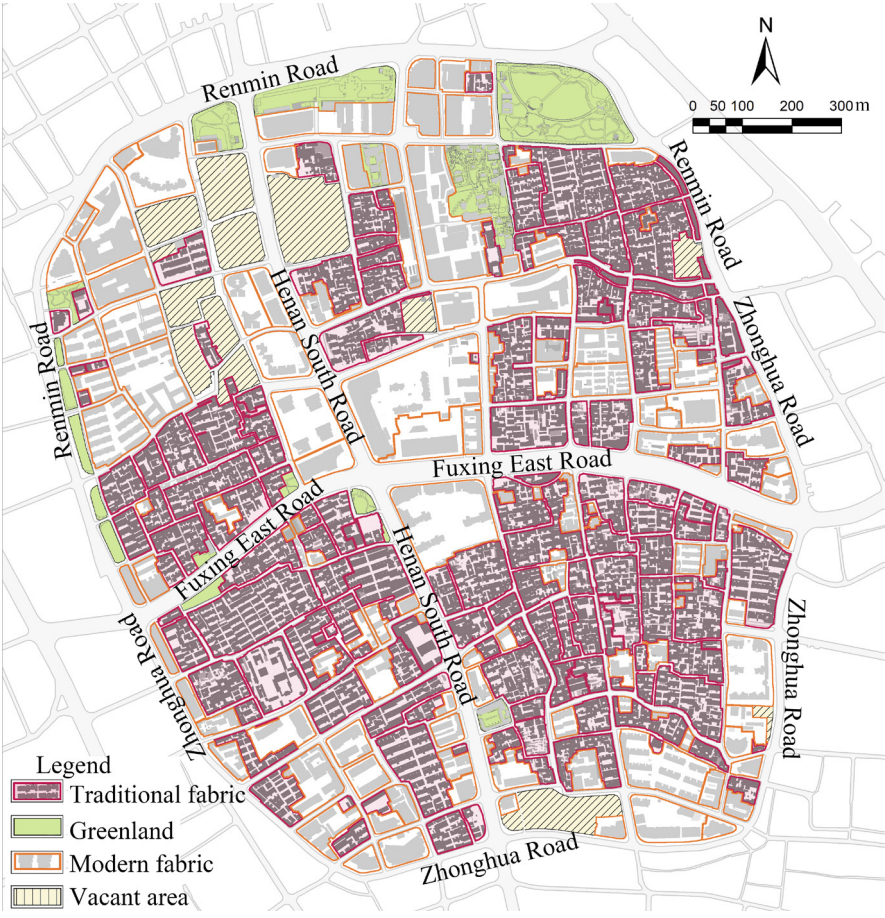


Fig. 1. Current status of traditional fabric conservation in Shanghai Old City Historic Conservation Area.

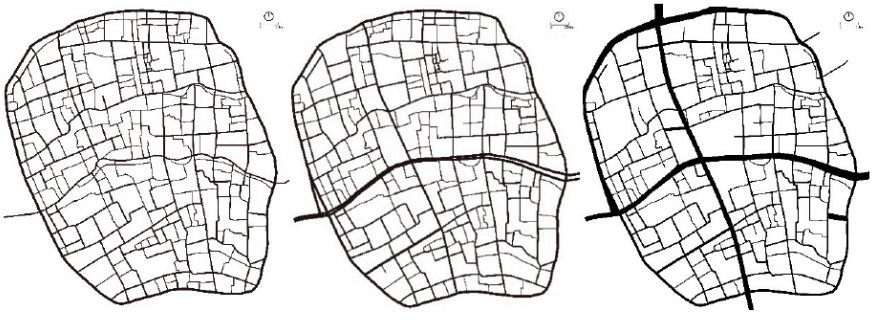


Fig. 2. Road network evolution of Shanghai Old City Historic Conservation Area in 1949(left), 2004(middle), 2018(right).

As conclusion, since the widening project of the two main roads (Fuxing East Road and Henan South Road) began in 1994, the urban fabric of Shanghai Old Town began to change quickly. It has to confess that the whole morphological feature has overturned from a majored traditional urban fabric into modern urban fabric from 2000. The historical features of a traditional Jiangnan town are facing disappearance.

THE EVALUATION OF THE EFFECTIVENESS OF CONSERVATION AREA PLANNING

Shanghai Historic Conservation Area is a policy zone where conservation and preservation is the primary focus and urban regeneration is the secondary focus. The ring road was the boundary of Shanghai Old Town Conservation Area that was the site of former city wall. Compared with the traditional urban fabric transformation inside and outside the Conservation Area, the outside area changed much more than the Conservation area. The area along the Huangpu River has almost totally changed from similar traditional fabric to modern fabric with many high-rise buildings, resulting the entire waterfront area morphological characteristics overturned (Fig.3).

This study sorted out the revised public notice documents of the regulatory detailed planning inside and outside Conservation Area from 2005 to 2021. Among them, there were two latest planning announced in 2020 revised nine blocks of the former Conservation planning announced in 2005 of Shanghai Old Town. There were three newest planning (announced in 2009, 2014, and 2019) regulated the building height and floor-area ratio in Dongjiadu Area nearby Shanghai Old Town relating to 30 blocks. Six planning and 24 unreconstructed plots are involved in total until July 2021. Based on the collected data, the floor-area ratio data could divide into two groups according to whether the plot is located in the conservation area or not. It can be calculated through the Independent Sample T test. The Sig. value of floor-area ratio and building height regulation are both less than 0.05(Tab.3), indicating that there is significant difference between the two groups. Above all, the floor-area ratio of the regulation of new reconstruction project was quite different between the ones inside and outside (nearby) the Conservation Area, although they have similar traditional urban fabric historically. Thus, the Historic Conservation Planning has played an important role for protecting the historic features, and making constraints of development projects.

Time	Streets amounts	Decrease percent（%）	Total length（km）	Decrease percent（%）	Streets dense（km/km2）	Decrease percent（%）
1949	240	-	49.59	-	24.92	-
2004	210	12.50	43.87	11.53	22.04	11.56

Table 3. Independent Sample T test between the Conservation Area and its nearby. Species 1=plot located in Shanghai Old Town, inside the Conservation Area; Species 2= plot located in Dongjiadu area nearby Shanghai Old Town, outside the Conservation Area. (output from SPSS)

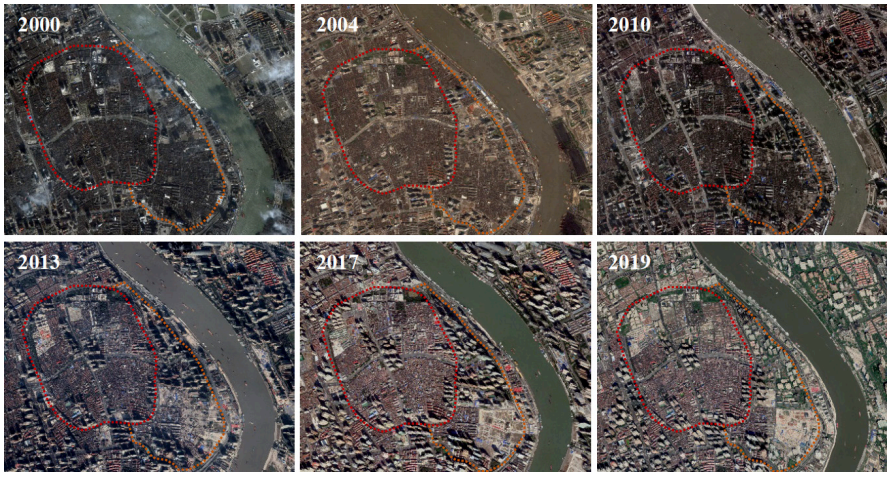


Fig. 3. Satellite map of Shanghai Old City area in 2000, 2004, 2010, 2013,2017 and 2019. The red ring road is the boundary of the Historic Conservation Area; and the area named Dongjiadu Area is the waterfront area outside the Conservation Area shown in orange colour. The modern fabric appeared year by year, and these maps show the higher changing speed and amount outside the ring road than the area inside the ring road.

Another conservation tool in the Historic Conservation Planning is the protected roads and streets with historic-features. The Planning approved in 2005 identified two protected roads and 34 protected streets in study area. Based on the investigation on both sides of the road (Zhonghua Road and Renmin Road), it is found that the historic features of buildings along the road with about 1.7 km in total length (32.7% of 2 roads total length) have disappeared. Among the 34 protected streets, 21 streets have basically preserved the historic feature. The historic features of seven streets were damaged to a certain extent, the street h-w ratio (height to width ratio) was damaged, and these streets were typed as partially damaged streets. The sense of place of 6 streets was totally changed, although the street h-w ratio was kept, they were typed as weak protected (Fig.4). All the 6 weak protected streets were located in the new-reconstruction area, inside or around the new Luxiangyuan project. By surveying residents of nearby Lilong housing whether they get better public space after the new-built community is built, 100% of the interviewers gave the negative critics. Some of them thought the new-built community do not have any relationship with them. Some thought the former community full of local facilities were replaced by the strange new community with none local facilities.

EVALUATION OF THE EFFORTS OF THE "FABRIC RECONSTRUCTION" METHOD

The newest planning (announced in 2020) shows that the plots in the core conservation area were regulated to reconstruct low-rise buildings with height up to 16 meter. While the new-built building in the blocks located in the whole Conservation area but not in the core conservation scope can reach 85-100 meters (Fig.5). Luxiangyuan project were built with similar building height and density as former buildings in the core conservation scope. It can be figured out that

compared to the former Lilong housing, the urban fabric of new-built buildings of Luxiangyuan project is more orderly, less dense and compact, with more modern urban fabric character.

Based on the field investigation, the former high sharing streets and lanes are not open anymore, including the designated protected streets, so they were typed as weak protected in this research (Fig.4). At each entrance, there are some doorkeepers checking the identity of the visitors. It shows the biggest problem of the "fabric reconstruction", which is the designated protected streets are not public to everyone anymore and the entire new reconstructed area has no sharing character from the sense of place(Tab.4).

As we know, the lanes and streets of the traditional urban fabric have high sharing quality. After this kind of reconstruction, the real historic building and the sharing character with them were both replaced by a pure townhouse community. The small plots of groups were merged into a big "gated-wall" community, as same as the high-residential building reconstruction projects.

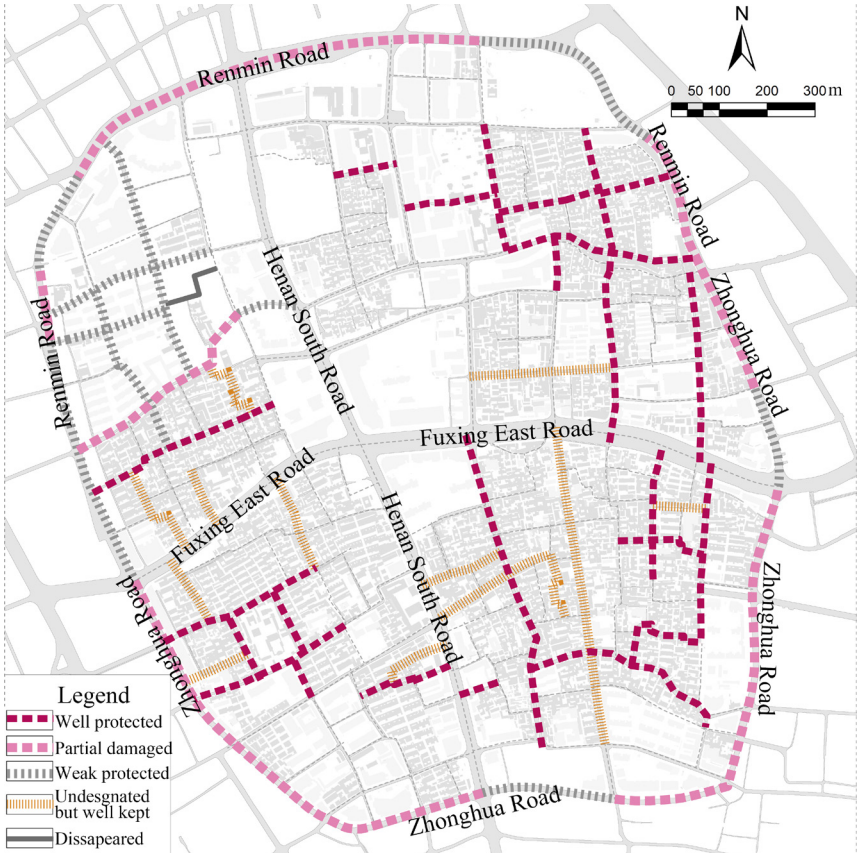


Fig. 4. Preservation situation of historic feature of streetscape in Shanghai Old Town Historic Conservation Area. The streetscape changes a lot along the newly-built blocks, whether it is protected roads (streets) or not. While some undesignated protected streets keep the historic feature of streetscape.

Fig. 5. The newest regulation of new-built building height announced in 2020 and the relation with its location compared to the core conservation scope.

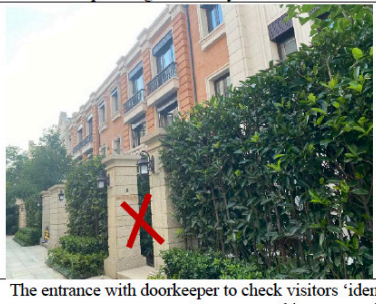
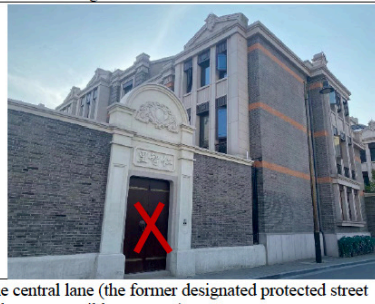
The private gate of every townhouse	The gated wall of the similar side lane
	
The entrance with doorkeeper to check visitors 'identity of the central lane (the former designated protected street reconstructed into pure private roads not accessible anymore)	
	

Table 4. The "gated" new "fabric reconstruction" project made designated (in 2005) protected street private as a type of weak protected

CONCLUSION

Since the implementation of the conservation planning in 2005, the drastic changes of urban morphology has been contained. During the period of great changes in urban morphology of Shanghai in the past 20 years, there is still about 40% of the traditional urban fabric retained in Shanghai Old Town, which heavily depends on the delineation of the scope of Historic Conservation Area and its planning requirements. It partly control the elimination and transformation speed of the traditional urban fabric than other unprotected areas. The core scope enacted more strict regulations of new-built building height than the ones outside the core conservation scope. The building height along the designated protected streets are also regulated strictly to preserve the kindly h-w ratio of the street.

While the conservation planning also has certain limitations. Firstly, in 2005, when the Conservation Planning was made, the area of the traditional urban fabric was more than 60% of the whole area. But the core conservation area, which means inside this scope should strictly control new construction and reconstruction activities, was only totally 27% of the entire area designated in the Conservation Planning. More than half of the traditional urban fabric retained in 2005 were not designated into the core conservation scope. The plots that had already been demolished or under construction projects were also not designated into the core conservation scope. Actually, there is a large gap between this planning and the international practices, particularly those in France. According to the Marro Law, from the date when the relevant authorities issued a decree and delineated a conservation area, considering whether it meets the requirements of the conservation and value enhancement plan, all construction projects that may affect the state of the buildings must apply for and obtain permits to further construction[17]. The current implementation of conservation planning is not effective enough for the control of new constructions outside the core conservation zone in order for traditional fabric continuation.

Secondly, the limitation of the conservation planning itself. It involves little tools to reflect the human's sharing needs for the historic resource. Even the newest "fabric reconstruction" project also only keep the dense and building height as former demolished Lilong housing, but without any strategy to keep the high sharing character value of the former traditional urban fabric. It would be a pity if the remaining traditional urban fabric is not conserved and regenerated more carefully in the future. It is necessary to truly realize the importance of integrated conservation and maintain the multiple values of traditional urban fabric. It is still a huge challenge to effectively improve the livelihood of the residents and play the high sharing value role of the traditional urban fabric in the old town at the same time in the further research.

ACKNOWLEDGEMENTS

Fund Project "Research on Methods of Assessment and Protection Design" (No. 51778428). Supported by the National Natural Science Foundation of China.

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The Periodization of Chinese Urban Planning History from the Perspective of Civilization Development

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Abstract

Cities are the cradles of civilization, and are the products of settled-pattern human civilization. Revealing the commonality of different civilizations helps understand the world history's complication and the heterogeneities between many main human societies. Likewise, studying Chinese urban planning history from the perspective of civilization development helps understand the complication of Chinese urban planning's evolving, its communication and conflict with other societies on account of planning patterns, as well as commonalities and differentiations. This presentation outlines the periodization approach of global history and civilization development relating to planning history, and reviews the existing periodization views of global urban history and urban planning history. In terms of these reviews, this presentation raises a periodization point of view of Chinese urban planning history from the perspective of civilization development. It argues for dividing the development of Chinese urban planning into four civilization development period, namely the agricultural, industrial, technique, and ecological civilizations.

Keywords

Chinese ancient planning history, periodization, global history, civilization

How to cite

Cao, Kang; Zhang, Yi; "Research on Spatial Transformation and Reusing Strategy of Historic Urban Landscape under Cultural Tourism Guidance ——Take Harbin Old Port Area as an Example". In Carola Hein (ed.), *International Planning History Society Proceedings*, 19th IPHS Conference, City-Space-Transformation, TU Delft, 5 - 6 July, 2022, TU Delft Open, 2022.

Application of typo-morphological approach in the planning of mountain historic town

Taking Wanling town as an example

Kuo Kang
Sapienza University of Rome

Abstract

At present, opportunities and challenges coexist in China's mountainous historical towns. Establishing the relationship between new forms and traditional forms based on comprehensively mastering the historical evolution of spatial arrangements of mountainous historical towns is the focus of general attention in construction planning. Taking Wanling Town, Rongchang District, Chongqing as an example, this paper comprehensively reveals the specific state, historical evolution, and humanistic factors of urban spatial development through the research and analysis of multiple morphological types. It also puts forward renewal strategies at different levels to be applied to the overall planning of mountain historical ancient towns.

Keywords

typo-morphological approach, mountain historic town, Wanling town

How to cite

Kang, Kuo; "Application of typo-morphological approach in the planning of mountain historic town -- Taking Wanling town as an example". In Carola Hein (ed.), *International Planning History Society Proceedings*, 19th IPHS Conference, City-Space-Transformation, TU Delft, 5 - 6 July, 2022, TU Delft Open, 2022.

Using GIS to facilitate the analysis of historical planning proposals

A Case Study on the Plan for Osaka of 1899 by Hanroku Yamaguchi

Junne Kikata, Yumi Kiwada
Kagoshima University

Abstract

Clarifying how planners' ideas were reflected in the concrete design of historical planning proposals is a core research theme in the planning history. However, there is not always sufficient archival material available to make such a study feasible. Large maps and drawings are often discarded and lost during the archiving process. In such cases, we have to consider a method of research based on limited historical documents, for example by integrating information found in text-based documents and cartographies. The authors have been conducting research on the Plan for Osaka in 1899, one of the earliest urban planning proposals prepared by Hanroku Yamaguchi (1858 - 1900), an architect who studied at the École Centrale des Arts et Manufactures in Paris. It is necessary to examine how the ideas described in the "Explanation of the Plan for Osaka" (hereinafter "the Explanation") are reflected in the "Osaka New Street Plan" (hereinafter "the Plan"), which is the only remaining primary graphic document of the planning proposal. In this paper, we discuss the methodological challenges in using GIS to reconstruct the missing information from the plans, drawing on information found in the primary sources. The Plan for Osaka by Yamaguchi has been regarded as a pioneering proposal of Japanese urban planningi, however, several archival constraints have prevented a detailed analysis from being undertaken for many years. First of all, "the Explanation" available to the publicii are in draft form, and many parts are illegible. To address this constraint, the authors have been working on determining the contents by collating editions from private collectionsiii . Another constraint is that "the Plan" printed and published by the city of Osakaiv has been confirmed as the only remaining primary graphic document, and none of the original detailed drawings have been found that are known to have been prepared by Yamaguchiv. This has prevented immediate consideration of how Yamaguchi's ideas might be reflected in the design. In this study, we integrated cartographic information obtained from other maps with GIS, and situated "the Plan" within this, in order to seek evidence for the reflection of Yamaguchi's ideas in the execution of the design. We look forward to active discussion on the accuracy of this approach at the conference.

Keywords

historical urban vision, Franco-Japanese exchange, Osaka, methodology of planning history studies, GIS

How to cite

Kikata, Junne; Kiwada, Yumi; "Using GIS to facilitate the analysis of historical planning proposals - A Case Study on the Plan for Osaka of 1899 by Hanroku Yamaguchi". In Carola Hein (ed.), *International Planning History Society Proceedings*, 19th IPHS Conference, City-Space-Transformation, TU Delft, 5 - 6 July, 2022, TU Delft Open, 2022.

5 JULY: SESSION 3.4

RE-THINKING THE PAST

Resilience in the Planning of Ancient Chinese Capital

Preservation and Utilization of Heritage in the Planning of Chang'an in Sui-Tang Dynasties

Guo Lu
Tsinghua University

Abstract

There are dozens of capitals in Chinese history, among which Chang'an City in Sui-Tang Dynasties (581–907) is the most famous. Its planning has influenced the later capitals of China as well as the neighboring regions (such as Japan). Chang'an city of Sui-Tang Dynasties was built in 581AD to the south of Chang'an City of Western-Han Dynasty (202BC-8AD). It is well-known as a completely new-built city and has received a lot of academic attention in the aspect of its urban planning. However, little research has paid attention to its preservation and utilization of heritage, including cultural, planning and natural heritage which could be regarded as a typical case of the 'resilience' in the planning of ancient Chinese capitals. 1, Cultural Heritage: Restoration and utilization of historic relics in capital region. Chang'an City was built on a new site, and there is nearly no heritage in the city site, but there are a large number of historical relics in the surrounding areas, with many extraordinary examples of restoration and reuse. For example, the Kunming Pool (public scenic spot) and Huaqing Palace (temporary palace) were built on the basis of the Qin-Han Dynasties (221BC-8AD). The ruins of Chang'an City of Han was included in the Royal Forbidden Garden to the northwest of the capital. This is not only to remembrance the antiquity, but also to save labor and benefit to the real life. 2, Planning Heritage: Inheritance and evolution of historical spatial structure. Although Chang'an City in Sui-Tang Dynasties did not inherit the site of Han, it obviously inherited its planning tradition. There was a regional axis in Chang'an of Han with the north end facing the Changling Mausoleum of the Emperor Gaozu and the south end facing the Ziwu valley of Zhongnan mountain, which closely combines the city with the regional natural environment. Tang Chang'an City inherited this planning tradition. One axis is the Taiji Palace-Shibie Valley axis. Shibie Valley is another valley of Zhongnan mountain, east of Ziwu valley. It is worth noting that it was called "Ziwu Valley" in the documents of the Tang Dynasty. There is an obvious intention of inheritance. Another axis is the Daming Palace-Niubeiliang axis, Niubeiliang is the highest peak of Zhongnan mountain. 3, Natural Heritage: Protection of the Regional Environment. The environment of Chang'an area was under pressure due to the long period of development and utilization since prehistoric times. In Tang Dynasty, the central government

had implemented integrity measures to protect the natural environment of capital region. The national code strictly stipulated that within 300 li (about 150km) around Chang'an was a "nature reserve" that strictly controls hunting and logging, and the emperor of the Tang Dynasty also repeatedly issued edicts to protect the ecological environment of the capital. Although deforestation and soil damage caused by large-scale construction were inevitable, in general, there was a basically harmonious relationship between man and nature.

Keywords

Capital planning, Cultural heritage, Planning heritage, Natural environment, Preservation and Utilization

How to cite

Guo, Lu; "Resilience in the Planning of Ancient Chinese Capital : Preservation and Utilization of Heritage in the Planning of Chang'an in Sui-Tang Dynasties". In Carola Hein (ed.), *International Planning History Society Proceedings*, 19th IPHS Conference, City-Space-Transformation, TU Delft, 5 - 6 July, 2022, TU Delft Open, 2022.

Reconciling conflicting development goals to enhance cities resilience

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Abstract

Contemporary development models contain a conflict between the economic and social dimensions of local agendas. It also creates a dialectic of what the normative goals of urban planning should be. There is a bit of neutral content on both sides, as each seeks an advantage while diminishing the effective power of the other. The normative goals of the new development programs deserve and require informed choices based on careful fact-finding, guided by agreed principles and standards of human life.

Keywords

urban planning theory, conflicting development goals, urban sustainability, city resillience issues

How to cite

Moisseev, Iouri; "Reconciling conflicting development goals to enhance cities resilience". In Carola Hein (ed.), *International Planning History Society Proceedings*, 19th IPHS Conference, City-Space-Transformation, TU Delft, 5 - 6 July, 2022, TU Delft Open, 2022.

Evolution and Permanence in Coimbra's Urban Form

The Emergence of Urban Planning in Portugal at the Turn of the Twentieth-Century

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Abstract

Across Europe, the 19th century was a period of radical transformation and the time of the emergence of urban planning as a science. In Portugal, a peripheral country, devastated by civil war and political and economic instability, these transformations emerged with some delay and on a smaller scale. After the creation in 1852 of the Ministry of Public Works, responsible for planning and construction of modern infrastructure and the road and railway network that would connect the main cities and the country with Europe, the first concerns with cities' health and urban beautification arose. Thus in 1864, the first urban legislation introducing the general improvement plan, mandatory for the two main Portuguese cities, Lisbon and Porto emerged, but it was also applicable to other cities. Coimbra, a medium-sized city, but then the only Portuguese university city, one of the cities that tried to draw up a general improvement plan to ensure the city's beautification planning. This paper analyses these efforts and a set of plans and projects, their relations with European models, and intends to understand the innovation of these first plans in the light of the emergence of urban planning as a mandatory public policy in Portugal.

Keywords

Urban Planning, municipal policies, sanitation, beautification

How to cite

Calmeiro, Margarida Relvão; "Evolution and Permanence in Coimbra's Urban Form. The Emergence of Urban Planning in Portugal at the Turn of the Twentieth-Century". In Carola Hein (ed.), *International Planning History Society Proceedings*, 19th IPHS Conference, City-Space-Transformation, TU Delft, 5 - 6 July, 2022, TU Delft Open, 2022.

DOI: 10.7480/iphs.2022.1.6520

INTRODUCTION

The modern urban planning concept is the result of construction that occurred in the 19th century. European cities were mostly dense agglomerations, with narrow, unpaved and unventilated streets, composed of buildings without the minimum conditions of sanitation, with scarce water provision. These problems were exacerbated by the rural exodus, which further densified the city and worsened its problems. In response, European cities were then subject to major improvements and expansion plans, urban theories and experiments emerged, and in parallel the urban planning process and the legal system were developed. From the boulevards of Paris to the expansion of Barcelona or Vienna's Ringstrasse, the European urban transformation of this period introduced modern European urban planning and shaped today's cities. These transformations had a bigger scale in the most industrialized countries and, in particular, in capital cities but they happened in all European cities and conduced to the definition of the modern urban planning system[1].

In Portugal, a peripheral country, the early 19th century was a period of great instability at a national level[2]. The first urban planning experiments happened in the second half of the century, after the creation of the Ministry of Public Works, which was responsible for a series of improvements in the country and in cities such as the construction of a road network in the first phase, and later through the construction of the railroad network and the improvement of ports and riverbanks, but also through the construction of public facilities, essential for the application of the new sanitation and comfort models in the cities. However, this national strategy demanded new technicians to be trained, and engineering courses created by following the French example of École Polytechnique of Paris, with two schools created to that end: Escola Politécnica de Lisboa and Academia Politécnica do Porto[3].

The main purpose of these measurements was to improve connections and stimulate the economy[4], but it was also through the construction of the road network that the first urban planning instrument emerged, imposing a general improvement plan in the two main cities to ensure the transformation and expansion of the city according to minimum sanitation and beauty requirements. The Decree of 31st of December of 1864, defined the minimum width and maximum slope of the streets, as well as imposing a comprehensive plan to guide the transformation and beautification of the two main cities. It also opened the possibility for all other cities to develop a General Improvement Plan (PGM). Imposing the need for comprehensive urban planning for the two major cities, this was an innovative decree in the European panorama. However, this measurement was not easy to apply and was delayed. Lisbon and Porto[5] had an improvement plan proposed in 1904 and 1881 respectively. Coimbra, a medium-sized city, was one of the cities that desired a PGM, although technical and financial difficulties made it impossible to attain.

PRAGMATIC REFORMS TO FULFIL NEW DEMANDS

Coimbra, located in the centre of Portugal on the banks of the Mondego River, at the beginning of the nineteenth century faced sanitation problems, increased by recurrent flooding.

During the eighteenth century, some works were made to redefine the course of the river. However, the political instability that followed postponed the conclusion of the works. This strategic location, at the intersection between the river and the royal road connecting Lisbon and Porto, allowed the circulation of goods and people and fostered the development of the city. Besides, since the 16th century, Coimbra's main attraction was its university and the related colleges employing the majority of the city's population[6].

After 1834 and the end of the civil war, the Liberal Regime was finally imposed in Portugal. The new Regime demanded a set of reforms to the administrative, legal and economic system and one of its first measures was the extinction of the male religious houses and the nationalization of their assets. This measure allowed the enrichment of the nation's treasury and extinguished the main supporters of the conservatives. This had an important effect on the cities, allowing the occupation of the former religious buildings for other functions as well as the urbanization of their land[7]. In Coimbra, 22 religious colleges were extinguished. On the other hand, the change of regime fostered the transformation of the country and cities to accommodate the new state functions. All over the country, some urban improvements started to be made, mostly to improve the public health conditions and circulation. However, these were minor interventions, since at that time, except for Lisbon and Porto, the municipal institutions had no technicians, architects, or engineers to study urban reforms. Coimbra is an example of this lack of technicians; nevertheless, Coimbra's mayors were mainly university professors, often doctors, mathematicians and law professors, who, besides their specific knowledge, had strong external relations and were familiar with the transformations taking place in Europe, which explains some of the innovative policies tried out in Coimbra[8].

The first plan for reforming the city was presented shortly after the election of the first liberal city council at the beginning of 1835[9]. It was a written and descriptive plan, without drawings, even though it reveals an overall vision of the city and its constraints. It was presented through a series of letters requesting the cession of a set of the extinct colleagues' properties the purpose was to install new facilities, such as the market, the town hall, the slaughterhouse, the jail, the cemetery, the hospice, and the barracks. In addition to these new facilities, it also focused on the improvement of circulation and proposed the widening of Rua de Coruche, which was part of the royal road that crossed the city. To prevent flooding and improve health conditions it proposed the regularisation and raising of the banks of the Mondego River. Although this plan was audacious and revealed a structured thought for the whole city it was not yet a real plan due to the fragility/non-existence of diagnostic studies of the city, the absence of drawings and a strategy for its implementation. The main premise seemed to be the support of the government, through the cession of the old properties of the extinct religious and the financial aid to support the urban reform works.

Thus, the lack of support from the government, that only released two of the assets requested, and denied the financial support for the widening of the street and the raising of the bank, imposed a change in the strategy, leading to the installation of all the required activities in the two buildings released, the old monastery of Santa Cruz and the Colleague of Graça. The period after was mainly focused on the installation of the cemetery outside the city limits in Conchada, the construction works were very delayed because of the lack of money and technicians, but also because of landslides, which required a change in the first project.

Fig. 1. Coimbra's localization and relation to Porto and Lisbon

At that time, Coimbra's mayor was Luis da Costa Simões[10], a doctor and Professor of Medicine, a man with knowledge of the reforms underway elsewhere in other European cities, and with a great desire to improve the city's conditions. Costa Simões struggled to improve the city's circulation, and managed to overcome technical difficulties by turning to the state technicians who worked in Coimbra at the District Works Directorate, inviting its director to study the widening of Rua de Coruche. The financial constraints were overcome with the help of the Director of Public Works, Visconde da Luz, who financially supported one-third of the works.

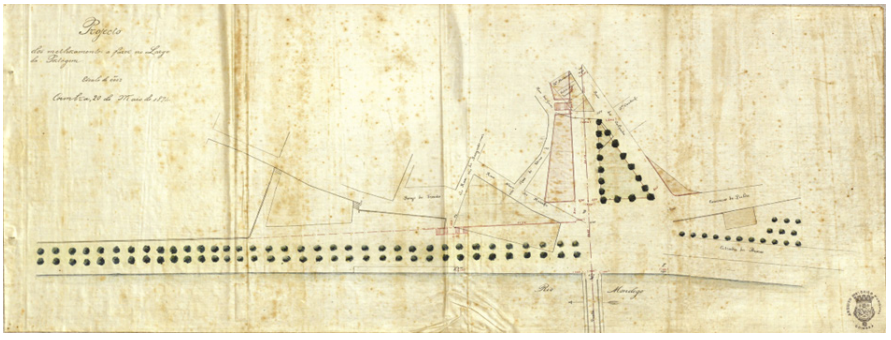

Fig. 2. New D. Carlos Square and the Boulevard by the River, 1874

The works began in 1858, requiring extensive expropriations and in 1866, the new wider street was named Rua do Visconde da Luz to acknowledge the Director of Public Works.

Meanwhile, the construction of the road network, a major structural work for the country was underway, but also facing some difficulties, mainly the roads under the competence of the municipalities. To guarantee the good execution of the network, the decree of 31 December 1864 defined the dimensions and shape of the roads, and also the minimum features for urban streets. It also imposed the General Improvement Plans (PGM) to enhance cities' circulation and sanitation for Lisbon and Porto, and for the rest of the cities that desired it. Coimbra's municipality applauded the idea and nominated a commission to study a PGM, but the lack of technical and financial capacity made any plan unfeasible. The urban transformations carried out in this time followed the common practice seen in other cities[11] and focused on facilities that could improve urban health conditions and circulation (public market, municipal jail, railroad station) [12].

THE FIRST IMPROVEMENT PLANS

The lack of technicians and financial resources postponed the PGM however, the municipalities' illustrious elite, the responsibility for the urban transformations, knew what was happening in the other European cities, but was not aware of the processes and advantages of comprehensive planning. This understanding began to emerge after the involvement in interventions developed by the Ministry of Public Works working in Coimbra. Mainly after the raising and regularizing of the river Mondego's banks work and the construction of a new bridge, carried out by the Ministry of Public Works[13] and designed by the engineer Adolfo Ferreira Loureiro[14].

This intervention fostered the municipality, headed by the doctor and Professor of Medicine, Lourenço de Almeida Azevedo, to plan the reform of the city entrance, regularizing and widening the Portagem Square next to the bridge and creating a public promenade on the margin[15]. Close to the seventeenth-century ideals of the Abbot Laugier[16], this intervention reformed and beautified Coimbra's entrance.

Fig. 3. Hypothetical reconstruction of the Santa Cruz Plan proposed by Adolfo Loureiro, 1885.

In addition to this plan, this mayor[17] ordered the first topographic survey of the entire city, carried out by engineers Francisco and Cesar Goullard. This was the first rigorous drawing of Coimbra, therefore an essential instrument for urban planning, allowing the mayor to foresee the expansion of the city into the ancient Santa Cruz farm. This strategic property occupied the whole valley allowing an easy and less slopping connection between the downtown (Baixa) and the upper town (Alta). Without municipal technicians, Lourenço de Almeida Azevedo invited the engineer Adolfo Loureiro and doctor Júlio Henriques, a professor and director of the botanic garden, to draw up the plan. The original drawing disappeared, but we have its written description in the minutes of the town hall session[18]. This plan was influenced by Lisbon's Avenues Plan[19], and designed a boulevard 50 metres wide ending in a large square next to a new public garden, converting part of the old recreation garden of the Santa Cruz monks. From each corner of the large square wide symmetrical avenues were designed, sprawling through the surrounding hills. The new neighbourhood would cater for the construction of new housing but also some new facilities, like the new fish market, the construction of a better slaughterhouse, the creation of a public garden and a kindergarten, and also provide space for the fair of Santa Clara and the annual fair of S. Bartolomeu, and finally to enlarge the city water network with the springs from the Santa Cruz farm. Adolfo Loureiro was also responsible for a strategy to divide and sell the plots, defining a scale of prices and areas to suit the investor's financial capacity and demand.

A few years later the success of this intervention led the municipality to desire new expansion neighbourhoods in Penedo da Saudade and Cumeada, however, the Portuguese legal system, at that time, did not allow the release of municipal lots for private sale, which made it impossible for the municipality to design new expansion areas.

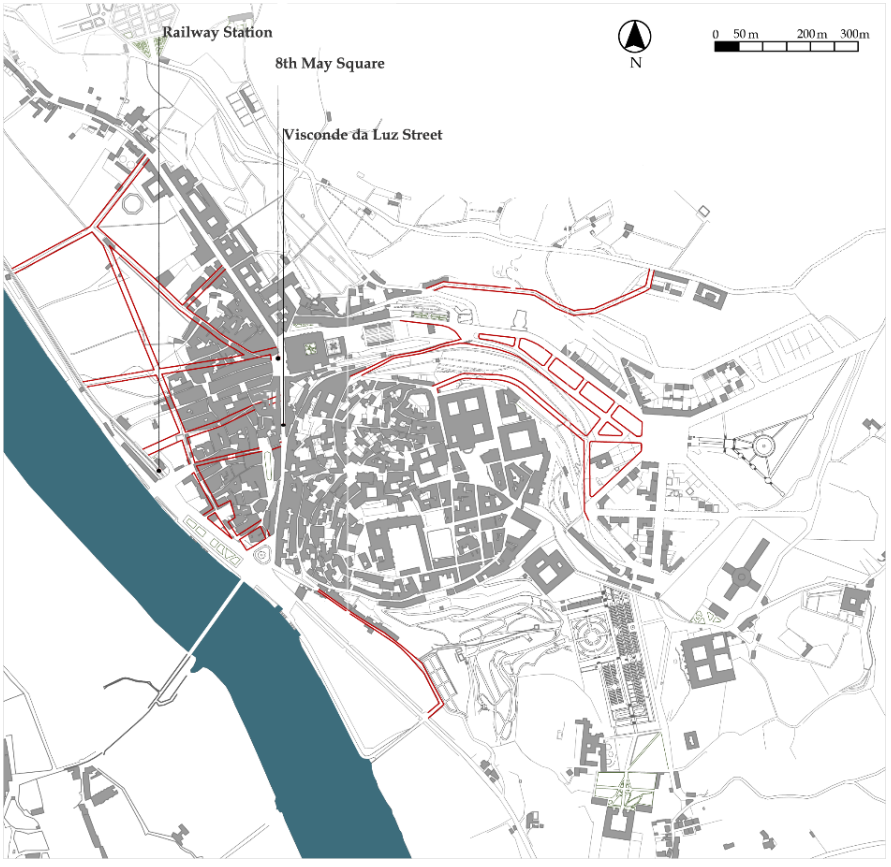

Fig. 4. Hypothetical reconstruction of the General Improvements Plan proposed by Leonardo de Castro Freire, 1900-1901. Visible the downtown reform and the lack of orthogonality

THE PRIORITY OF NEW INFRASTRUCTURE NETWORKS OVER BEAUTIFICATION AND SANITATION

As well as redesigning the entrance of Coimbra and its expansion, the municipality was also trying to introduce a modern water supply system from the Mondego River. This process had been started by Costa Simões in 1865[20], The small size of the city made it unattractive to private investors and after several years and attempts to attract shareholders, the solution was found in 1887 when the municipality took the initiative. Once again, they called on the services of the engineer Adolfo Loureiro to design the project and contracted a loan to carry out the works. Thus, more by necessity than by choice Coimbra became the first Portuguese municipality to municipalise its water supply services[21]. After this network's construction, and driven by an outbreak of typhoid fever caused by contaminated water, the modern sewer network started to be constructed by the municipality.

Fig. 5. Plan for Baixa's reform proposing a set of new streets starting in May 8th Square, Abel Dias Urbano, 1924

In parallel to the introduction of these public services, the need for the reform of the urban tissue remained and in February 1888, mayor Luís da Costa Almeida, a professor in the Maths Faculty, asked the government for the nomination of a new commission to develop an PGM for the city. Again, no plan was presented[22].

At the end of the century, a new mayor, Manuel Dias da Silva, a professor in the faculty of Law, decided to increase taxes so that the municipality could start the sanitation and beautification reform of the downtown area. In November 1899 a new commission was appointed[23]. A month later the Improvement Plan for the Baixa (the downtown area) was presented and in the following year several partial plans to reform the entire city were presented.

The reform of the Baixa was a long-standing desire of the city[24] but the plan was not implemented. Some new streets in expansion areas were built but not much else, mainly because the council and the mayor did not agree with the plan's design. The commission designed an economically viable plan but, in an attempt, to reduce the cost the plan proposed the widen the streets while maintain its layout to minimize the expropriations. Thus, the plan was contested by the City Council, which considered the plan unambitious and so the municipality decided not to implement the plan. It has not been possible to find the drawings, but we know some of the criticisms that were made due to the urban layout (figure 4). One of the main requirements of the Baixa plan was to improve the entrance into the city for those arriving by train, propos-

ing the opening of two avenues to connect the railway station to the street Visconde da Luz and the riverfront to the town hall square. If the latter was not criticised, the former was contested because the proposed street was not straight and did not allow one to see the beginning and the end of the street. Moreover, this reform required a large investment from the municipality, which was not possible given the other ongoing interventions in the city.

In fact, the urban reform of Baixa was an expensive intervention requiring expropriations and demolitions, the municipality was committed to the expansion of the city through the new neighbourhoods and more significantly by the investment in municipal services (water and sewer networks) which absorbed both the capital and the technical capacity of the municipality. On the other hand, the rotation of the presidents of the municipality and the non-existence of a stable technical body made a coherent and continuous strategy impossible[25]. Thus, the investments were applied in the most urgent interventions, such as the municipal services and in the new construction areas which tried to be self-financing through the sale of building plots.

After the construction and exploitation of water and sewers municipal services, and after a failed attempt to get a private company to introduce electricity to the city, the municipality decided to introduce this improvement by using its own means. Thus, in 1904, the municipality headed by Manuel Dias da Silva decided to municipalize the gas factory and carry on the studies to introduce electric energy in the city. Again, this innovative posture would imply enormous efforts, making other improvements unviable. This constraint was increased in 1908, when the following mayor, Marnoco e, Sousa, who was another law professor, enhanced this strategy and decided to also municipalize the public transport network and replace the existing mule-drawn trams for an electric system. A few years later, in 1911 the electric trams and electric lighting were inaugurated, connecting the whole city and fostering the expansion of the city to new areas. In the beginning of the twenty century Coimbra was the only Portuguese city to have all the public services of water, energy and transport municipalized. Thanks to audacious mayors, Coimbra was becoming a modern city with the most modern infrastructures in use in European cities.

However, the downtown area remained unchanged. The Baixa urban reform required expropriations and a great municipal investment, whereas growth was less expensive, simpler to execute and created more customers for the municipal services (water supply; electric power supply and urban transports).

Nevertheless, the will to reform Baixa prevailed, and in 1918 a new topographic survey was carried out. A new plan was designed by the engineer Abel Dias Urbano, chief of the municipal technical services and was approved in 1924. This plan proposed a new layout of regular streets connecting May 8th Square with the main spots: the bridge, the railway station, the railway commodity station and the industrial district located at the north entrance of the city. This would require extensive demolitions and allowed the Baixa neighbourhood to be rebuilt at a higher level, to prevent flooding. The neighbourhood was composed of new residential and healthier blocks, but also new facilities, such as the Court, Commercial Schools, Primary School, and Female High School. Beyond the street layout, Dias Urbano designed an implementation strategy founded on the application of Lisbon's expropriation law and the creation

of an expropriation fund, sponsored by stakeholders in exchange for plots. This was an ambitious plan implying the radical transformation of Baixa into a new modernized and healthy neighbourhood, meeting the population's expectations. Despite wide acceptance and even the compliments received in the periodical press, Coimbra had little industry and it was not easy to mobilize investors. The lack of funds postponed the demolitions and the approved plan started to be applied to new buildings which had to follow the plan's alignments, this resulted in a set of discontinuous and inconsistent alignments that persist in the urban tissue.

THE AFFIRMATION OF URBAN PLANNING AS A MUNICIPAL PRACTICE

This was a period of accelerated growth fostered by the conclusion of the public transport network connecting the new neighbourhoods to the city centre. The municipality's desire for a general plan to regulate urban growth and urban transformation increased. In 1932 the municipality hired a new survey for the topographical plan of the city using aerial photography[26] and on 30 November 1933 Daniel Pedroso Baptista, a municipal councillor, presented the improvements needed by the city. This set of improvements would be the basis for the urbanisation plan for the city[27]. In November 1834, the municipality hired Luis Benavente[28], an architect working in the city's delegation of the Ministry of Public Works, to design the new urbanization plan for the city.

Fig. 6. Luis Benavente's Plan. Visible is the new Baixa Layout, the regularization of the 8th of May Square and in the right the boulevard extending the city to the north, 1936

Shortly afterwards on the 21st of December, 1934, Minister Duarte Pacheco, published the Decree-Law n.º 24802 changing the Portuguese urban planning system.[29] Benavente would have to follow the decree. However, he was overworked, and the plan was being developed very slowly. In November 1936, after much pressure from the town hall, the architect delivered his plan. This plan, like Abel Dias Urbano's plan, was very ambitious, proposing the demolition of the unhealthy Baixa Neighbourhood From the redesigned 8th May Square he proposed a new network of avenues and streets according to a succession of visual emphases and squares, revealing the principles of the period very much marked by the regularity of the streets, the monumental alignments and the use of models such as the boulevard which here proposed to designed the new entrance to the city from the north.

Despite the urgency and necessity of the plan, this plan was not approved, instead, the Minister of Public Works, Duarte Pacheco, suggested the municipality to hire the architect and urban planner Etienne De Groer[30] . In the following year, this urbanist presented the Ante-project of Urbanization for the Beautification and Extension of the City of Coimbra, the first instrument for the modern planning of the city, which was approved five years later, in September 1945[31].

Groer was a proponent of Howard's theories[32] and proposed a polycentric city with satellites villages[33]. It answered most of the concerns of the municipality, but for the downtown, proposed a more realistic plan[34], claiming the maintenance of most of the ancient district as a memory of the city's past and emphasized the visual and picturesque value of this historic area, proposing only occasional demolition of the blocks' interior to improve ventilation and insolation. Gröer only proposed the opening of two structural avenues connecting May 8th Square to the river[35].

This was the first plan that Groer drew up in Portugal[36], and to overcome the problems of a non-existence of a National Building Regulation it defined a set of regulations, such as the Zones Regulation, the Regulations for Plots and Quarters and the Building Regulations[37]. Despite the innovation and the influence of this plan to others in Portugal, in Coimbra Groer's plan was contested. Given the topographical characteristics of the city, the garden city and the lower density model were considered too expensive. Therefore, in August 1953, the municipal administration hired Antão de Almeida Garrett to revise this plan[38]. Even though proposing higher increasing density areas, this plan sustained the organisation and extensions proposed by Groer[39].

SOME CONCLUSIONS

During the 19th and early 20th centuries, the need to transform cities in Europe and Portugal led to the emergence of urban planning. The process in Portugal was slow and had several hesitations and postponements. This period corresponded to a change into the new liberal regime, and so in addition to modernising the cities, it was necessary to create a new administrative and judicial system. This required the creation of new municipal institutions with new

powers to plan and transform cities but without the means to do so. The desire for modernity, for more salubrious and beautiful spaces, imposed itself, but at the same time the transformation of the regime imposed the urgency of new equipment for the new functions of the welfare state, and technique imposed the requirement for new hygiene and comfort infrastructures essential for modern and salubrious cities. Despite this urgent need for urban transformation, three key elements were lacking: technicians, topographical surveys and financial resources. Faced with these constraints, the municipalities, led by local elites, resorted whenever possible to technicians from outside the municipality and took out loans. In Coimbra, this elite was made up of professors from the University of Coimbra, who knew about the changes taking place in Europe. For this reason, it was some of them who were responsible for the robust transformation of the city. The main improving sanitation and circulation.

In the first phase, this transformation responded to immediate problems and created facilities for the new functions of the state. Made with a short-term vision and a lot of pragmatism, however the need to concentrate the various state functions in the Santa Cruz monastery would have a crucial impact on the development of the city until today. This was followed by a phase of structured planning, planned under a survey of the city plan and with the decisive help of technicians, which had two fundamental impacts on the city: the regularization of the bank and the sanitation of the lower part, and the expansion of the city with the new Santa Cruz neighbourhood, replicating European models of urban expansion. After the expansion, it was urgent to introduce public services such as water, gas, and transport. But this process was slow and required the city council to develop its technical services by hiring technicians to plan, build and manage the water service and years later the other services. These improvements and this attitude of the city council were fundamental for the development of the awareness of the capacity of the municipality in the design of the city and the valorisation of the technical specialists. This phase required large investments and loans and had a very long duration, which made investments in other improvements impossible. Finally, in the 1930s it seemed that the municipality was already aware of the importance of planning and decided to carry out a new survey and study the long-desired general plan. After a first attempt, which turned out to be incomplete, modern urban planning was finally initiated with the contribution of a foreign urban planner, who proposed a new city model inspired by the garden city. Moreover, he proposed not only a comprehensive plan but also the tools to put it into practice, defining the rules for buildings and plots. Following the Coimbra plan, Groer was responsible for other plans in Portugal. The plan of Coimbra allowed Groer to define concepts and principles, which explains the set of associated regulations and allowed this urban planner to define what an urbanization plan should be, a fundamental contribution not only for Coimbra but also for the plans of other national cities.

DISCLOSURE STATEMENT

No potential conflict of interest was reported by the author.

NOTES ON CONTRIBUTOR(S)

Margarida Relvão Calmeiro graduated (2005) and PhD in Architecture from the University of Coimbra (UC)

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8. Other scholars have pointed out the importance and the contribution of intellectuals from various educational areas who, reflecting on the city and its problems and its problems, were of fundamental importance for the development of urban culture in the 19th century. Among others, we highlight the proposals of Engels, Marx, Ebenezer Howard, John Ruskin, William Morris and Camillo Sitte. Françoise Choay, The modern city: planning in the 19th century (New York: George Collins, 1969) and *O urbanismo: utopias e realidades: uma antologia*. (São Paulo: Perspectiva, 1997).
9. Margarida Calmeiro, *Urbanismo antes dos Planos: Coimbra 1834-1934* (Coimbra: Câmara Municipal de Coimbra, 2021), 87-109.
10. Costa Simões was also responsible for the reform of the university hospitals and for the teaching of medicine. In this context, he made three scientific visits to Europe where he got to know several European hospitals. These visits gave him the knowledge to write several important works for the construction of the city, namely about city sewers. Margarida Calmeiro, Urbanismo Antes dos Planos. Coimbra 18341934 (PhD diss., University of Coimbra, 2015),Vol. II, 59-60; António A. Costa Simões, *Relatórios de uma viagem scientifica* (Coimbra: Imprensa da Universidade de Coimbra, 1866); *Os esgotos nas cidades e nos hospitais (resumida apreciação dos principais systemas), com aplicação aos hospitaes da Universidade* (Coimbra: Imprensa da Universidade, 1889); "Abastecimento d' Aguas em Coimbra, Difficuldades que retardaram o abastecimento d'aguas em Coimbra. O Instituto 38 (1891): 341-349.
11. In this period most of the improvements were intended to improve urban sanitation or circulation. Richard T. Le Gates and Frederic Stout, *The City Reader* (New York: Routledge, 2016), 360. Mário Fernandes, *Urbanismo e Morfologia Urbana no Norte de Portugal*. Viana do Castelo, Póvoa de Varzim, Guimarães, Vila Real, Chaves e Bragança entre 1852 e 1926 (Porto: FAUP Publicações, 2005). Isabel Pereira,. A evolução da morfologia urbana de Vila Nova de Gaia entre 1864 e 1926 (Msc. diss. Faculdade de Letras do Porto, 2007).
12. The municipal cemetery was blessed in 1860, the municipal market was inaugurated in November 1867, the jail was installed in the old Santa Cruz Monastery in 1856, gas lighting was installed in 1856, the railway network arrived in Coimbra in 1864. *Calmeiro, Urbanismo Antes dos Planos*, 2021, 89-104.
13. This intervention involved a detailed study of the course of the river, its flow and slope, and was an impressive hydraulic study that served as the basis for many other interventions in Portuguese rivers. Adolfo Loureiro, "Memória sobre o Mondego e Barra da Figueira", *Revista das Obras Públicas e Minas V* (1874): 335-356, 391-430, 435, 479 and 515.
14. This engineer was specialist in hydraulic works and harbours, however in a time of few technicians, he

was also responsible for various interventions in Coimbra. Ildeberto Mota Oliveira, "Adolpho Ferreira de Loureiro. Nota Biográfica", *Recursos Hídricos 24*, no. 2 (May 2003).

15. More details about this intervention in: Margarida Calmeiro. "A Paisagem Urbana oitocentista. Embelezamento e política urbana na renovação da imagem de Coimbra" *CEM/ Cultura, Espaço & Memória,* «Paisagem», no. 4 (2013): 77-87.

16. In his work of 1753 proposed a program of beautification, applied to the entire city but with a special focus on the city's entrances, its streets and its buildings. Marc-Antoine Laugier, *Ensayo sobre la Arquitectura* (ed. de Lilia Maure Rubio, 1st edition, 1753).

17. This doctor had developed a series of studies on cholera and his knowledge of the disease was fundamental in proposing a series of measures to sanitise the city. In 1885 this mayor was appointed to the national public health advisory board. Margarida Calmeiro, Urbanismo antes dos Planos. Coimbra 1834-1934 (Coimbra: Câmara Municipal de Coimbra, 2021) 130, 114. Alberto Sá de Oliveira, "Lourenço de Almeida Azevedo. Administrador Municipal", *Arquivo Coimbrão. Boletim da Biblioteca Municipal*, no. 8 (1945): 1-26.

18. Council Session of 23th of July, 1885. AHMC/Vereações. 100: fl. 105v-106.

19. Marta Macedo, "A Conquista do terceiro espaço – uma abordagem ao ensanche oitocentista de Coimbra", Monumentos 25 (2006): 122-129; Raquel. H. da Silva, "Lisboa romântica. Urbanismo e arquitectura, 1777-1874" (PhD Diss., Universidade Nova de Lisboa, 1997).

20. Costa Simões encouraged the municipality to hire the engineer Louis Charles Mary. Mary presented the first water supply project for Coimbra in 1866. The construction of the network should be executed by a private company but it was not possible to attract any private. Louis-Charles Mary was the author of the project for the water supply of Lisbon; the city of Trois, Barcelona. About Lisbon water supply project, see Paulo Oliveira Ramos, *O projecto de Louis-Charles Mary para distribuição de água na cidade de Lisboa,* 1856. (Lisboa: EPAL, 2011).

21. In Lisbon, between 1866 and 1867, a debate arose about the best way to manage the water supply. According to the studies of the time, the best solution would be municipalisation to ensure price moderation, service quality and coverage. However, at the time, the municipal administration of Lisbon lacked organisation, technical and financial means, and ended up signing the definitive concession with the Companhia das Águas de Lisboa in 1867. Álvaro F. da Silva; Ana C. Matos, "The networked City: Managing Power and Water Utilities on Portugal, 1950s-1920s", *Business and Economic History on-Line*, 2 (2004): 21-23.

22. This situation may be explained because the engineer appointed was Adolfo Loureiro, who was assigned to oversee the Port of Lisbon works. Despite, this was a period of great transformation in Coimbra with the urbanization of Santa Cruz neighbourhood, the enlargement of the Mondego embankment, the water network and the construction of the road of Beira, one of the most important to national circulation. Moreover, the water network works required the recruitment of an engineer for the municipal services which facilitated the remaining municipal interventions, however, the volume of work and the constant financial constraints made a general reform unfeasible.

23. This commission was multidisciplinary, headed by the engineer from the Direction of Mondego Works, engineer Leonardo de Castro Freire, was also composed by the health commissioner and the municipality's works conductor, Joaquim Monteiro de Figueiredo. Margarida Calmeiro, *Urbanismo antes dos Planos. Coimbra 1834-1934* (Coimbra: Câmara Municipal de Coimbra, 2021), 164.

24. The plan for a new street or a set of streets to improve the connection between the riverfront and the railway station was an ancient desire. Before this plan, two other proposals had been planned, the first in 1887, a few months before the municipality's decision to build the water distribution network, after in 1891another designed by engineer João Teófilo Goes, proposed the opening of three avenues, one connecting the railway station and Visconde da Luz street, another connecting May 8th Square, where the town hall had been recently built, and the Oleiros Pier, where the railway commodity station was being built, and another one connecting the last avenue to D. Carlos Square. City Hall session of 14th May, 1891, AHMC/ Vereações. 103, 1890-1892: 104v.

25. Until 1896 the president was elected for two-year terms, after which it became a three-year term.

26. Developed by José Baptista Lopes, Coimbra was the first Portuguese city to apply this new topographic survey method.

27. These proposals included the opening of a 20-metre wide avenue from 8th of May Square to the new Fernão de Magalhães Avenue, the widening of the latter avenue from Portagem Square to Gasómetro Street, the widening of Avenida Dr. Dias da Silva and Bernardo de Magalhães Street in Cumeada neighbourhood, the regularization of the plot near D.Luis Square in Santa Cruz neighbourhood, the construction of a municipal market in Baixa and the demolition of the existing one to extend Avenida Sá da Bandeira to the Post Office, and other widenings in other parts of the city. To improve circulation, there was a need for a new bridge over the river, a ring road through Vale de Coselhas to Calhabé, the possibility of new expansion areas, and an industrial neighbourhood. Finally, it was needed to define the location of a municipal stadium,

an aerodrome, an artificial beach and, finally, the best location for the market.

28. This architect was working in several projects in the city and a few months later was commissioned by the Minister of Public Works to develop the plan for the reform of the university city together with the architect Raul Lino.

29. This decree introduced a compulsory General Urbanization Plans for every city of 2500 inhabitants or more.

30. The Groer was an urban planner trained at the Imperial Academy of Fine Arts of St. Petersburg, professor at the Urbanism Institute of the University of Paris where he lectured on the theory of the garden city. We was hired in 1939, he presented the first version of the plan in 1940.

31. The plan was developed with the collaboration of David Moreira da Silva, a young architect who had completed his training at the Paris Urbanism Institute with Groer. This architect was later responsible for many other plans in Portugal. Étienne de Groër, *Ante-projecto de Urbanização, de Embelezamento e de Extensão da Cidade de Coimbra* (Coimbra: Câmara Municipal de Coimbra,1948). The plan was approved by the Higher Council of Public Works with a special mention of appreciation and commendation. Lusitano dos Santos, *Planos de Urbanização para a Cidade de Coimbra* (Coimbra: Museu Machado de Castro,1983), 77.

32. He was familiar with the theories and texts of Sitte and Howard and like them he advocated the maintenance of low density, small-scale neighbourhoods. He criticised high-rise construction and the densification of the city, which he claimed led to the loss of social relations. Etienne De Groer, "Le Gratte-Ciel est-il Necessaire?", *La Vie Urbaine*, (Jan/Fev. 1935): 60. Étienne De Groer, "Introdução ao urbanismo", *Boletim da Direcção Geral dos Serviços de Urbanização* 1 (1945-46): 28.

33. However, his proposal for Coimbra, was closer to the French concept of garden suburb, mainly because of the city and the satellites villages dimension.

34. The also argued that it would be economically impossible to demolish and construct everything to achieve the street level proposed in the previous plans.

35. The Santa Cruz Avenue would be opened through the demolition of an entire block between Moeda Street and Bordallo Pinheiro Street, allowing the conservation of one side of each street, and connected Santa Cruz Church to the Ameias Pier. The other avenue connected to the new railway station proposed to the Oleiros Pier area. For this area, the plan proposed the construction of a bus station and a new municipal market. The plan included the widening of Madalena Street, Direita Street and the riverfront road.

36. After this, Groer was responsible for more16 plans. Margarida de Sousa Lobo, *Planos de Urbanização. A Época de Duarte Pacheco*. (Porto: DGOTDU. FAUP Publicações, 1995), 263. This first one had a pedagogical objective and was published and publicised years later, in 1948 by the City Council extending its impact on the plans being studied. Étienne de Groër, *Ante-projecto de Urbanização, de Embelezamento e de Extensão da Cidade de Coimbra* (Coimbra: Câmara Municipal de Coimbra,1948).

37. We highlight the attention given to constructions in sloping areas and to the protection of views in the most important points of the city. Étienne de Groër, *Ante-projecto de Urbanização, de Embelezamento e de Extensão da Cidade de Coimbra*.

38. The Regulator Plan of Coimbra, as Almeida Garret decided to call this plan was presented on 1954 and sent to the government in July 1956. The aim was to define the principles for the organisation of the various urban activities, the general rules and to lay the foundations for the partial extension plans which were to be defined subsequently. Lusitano dos Santos, *Planos de Urbanização para a Cidade de Coimbra* (Coimbra: Museu Machado de Castro,1983), 39.

39. Even though the criticisms and the flaws in its application, Groer's inaugural plan had fundamental importance in the subsequent planning of the city. However, it should also be worth noting that, beyond the novelty introduced, it is possible to establish a relationship with previous experiences, but above all, the difficulties in the application of the plan, largely resulting from decades of empirical planning.

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IMAGE SOURCES

Fig. 1 https://www.google.com/maps

Fig. 2 Margarida Calmeiro, Urbanismo antes dos Planos: Coimbra 1834-1934 (Coimbra: Câmara Municipal de Coimbra, 2021). 122

Fig. 3 Margarida Calmeiro

Fig. 4 Margarida Calmeiro
Fig. 5 Abel Dias Urbano. Projeto para os novos arruamentos da cidade baixa (Coimbra: Tipografia de M. Reis Gomes, 1928)
Fig. 6 Margarida Calmeiro, Urbanismo antes dos Planos: Coimbra 1834-1934 (Coimbra: Câmara Municipal de Coimbra, 2021). 189.

A Future that Could not Begin
Old City Decay, Urban Renewal and Comprehensive Planning in German Democratic Republic

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Abstract

This paper describes the decay of cities in the German Democratic Republic (GDR) as a result of the planning policy. In particular, I look at comprehensive planning for the city as a whole. In the 1950s, scientification also prevailed in the world of urban planning in Eastern Germany. In this way, the GDR followed international trends. Since 1967, automated data processing (ADP) and computing have played a seminal role in urban planning innovations in the socialist state. In the 1970s, the focus shifted in favour of a large housing programme. This resulted in piecemeal urbanism. Only when decay became a political as well as an infrastructural problem, there was a renewed push for comprehensive planning including digital methods. Finally, I look at the 1990s, where databases were further being used and careers continued under the new conditions. In this way, I contribute to the knowledge history of urban planning in Europe and to the historical understanding of its methods.

Keywords

GDR, East Germany, comprehensive planning, planning history, urban renewal, old city, automated data processing, ADP, information technology

How to cite

Noeske, Jannik; "A Future that Could not Begin. Old City Decay, Urban Renewal and Comprehensive Planning in German Democratic Republic.". In Carola Hein (ed.), *International Planning History Society Proceedings*, 19th IPHS Conference, City-Space-Transformation, TU Delft, 5 - 6 July, 2022, TU Delft Open, 2022.

5 JULY: SESSION 3.5

TOOLS AND METHODS

Chair: Kaiyi Zhu

Research on Urban Spatial Resilience Construction in the Post COVID-19 Era

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Abstract

The "COVID-19" outbreak in early 2020 is one of the biggest shocks humanity has faced in recent years. The need for emergency prevention and control during the epidemic, the need for regular prevention and control during the non-epidemic period, and the increasing health needs of people all pose new challenges to the sustainable development of urban environment.How to effectively improve the ability of urban environment to resist risks, self-recovery and health promotion through the renewal of existing urban space has become an important issue facing the spatial transformation and development in the current era. This research starts from the perspective of public health, and combines the economic and social background, urban development conditions, medical security conditions and residents' lifestyles in different periods to explore the concept and practical development of urban open space in resisting infectious diseases and improving residents'health. Secondly, analyze the difficulties faced by the resilience development of urban open space in the post-epidemic era based on historical experience, and put forward the goals of resilience development of urban open space in the new era in terms of spatial structure, spatial composition, spatial life, and spatial governance. Finally, based on the goal of resilient development, a resilient city open space design strategy that meets the needs of the Post COVID-19 Era is proposed.

Keywords

the Post COVID-19 Era, urban open space, historical evolution, public health, resilient development

How to cite

Wei, Dong; Zhai, Yumeng; Dong, Yu; "Research on Urban Spatial Resilience Construction in the Post COVID-19 Era". In Carola Hein (ed.), *International Planning History Society Proceedings*, 19th IPHS Conference, City-Space-Transformation, TU Delft, 5 - 6 July, 2022, TU Delft Open, 2022.

A Digital Bridge for Collaboration in Cultural Heritage

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Abstract

The importance of history and the role that built architecture plays on mankind is well defined, but we have never researched this phenomenon in a truly collective way. Digitization of data stored in archives and other institutions combined with crowdsourced information about particular sites could become an exceptional tool for connecting all different users and sectors of cultural heritage into a "Global heritage" interaction and communication. The research undertaken is summarised to the development of an interdisciplinary crowdsourcing platform, named "Heritage for People". There is no source of information that provides a central overview of the real value of all architectural heritage worldwide. Following the need for cultural awareness, the new era of digital information brought on the surface of the public discussion the role and tools that technology can offer not only to our lives but especially in the field of heritage data acquisition. Trying to deal with the question, how architectural heritage should respond to new and future needs of societies, we find a certain answer in possibilities given by IT. Cultural heritage is based on human interaction and as the latter is changing forms, especially well seen during the last pandemic years, cultural heritage needs to respond and develop the next steps of interaction within the future digital universe. The need for digitizing data and archiving could be transformed into an exceptional tool for connecting all different users and sectors of cultural heritage management within one global collaborative and interactive platform. Under the guidelines of the aforementioned thoughts, the research undertaken is summarised to the development of an interdisciplinary crowdsourcing platform, which collects, combines, and supports data from a simplified level to an expert audience. Having in mind the global scene, it follows the structure of cartography and mapping in order to collect as many as possible historical sites (from less to well-known). Everyone could edit the mapping system by adding new sites and also completing its data. In a simplified schema, by clicking a site, you will reach all the available data that exists on the platform. Having in mind the future heritage sites that will be mostly identified in the urban fabric, mapping heritage is more than essential. Taking Vienna as an example, we try to respond by mapping its continuing changes. The stakeholders along with the institutional help of the Technical University of Vienna will contribute to the platform/map, where over-layering data from different sectors will be collected, giving a holistic approach to each cultural site. Communities along with the university will be both parts of this effort: archiving the collective digital memory. "Awareness" and "knowledge distribution" are needed for the future cities and future cultural heritage. A societal contribution to the global collective memory, aiming

to prevent the destruction of further historical heritage.

Keywords

Mapping Heritage, Cartography, Crowdsourcing, Collaborative Data Exchange, Linking World Heritage Stakeholders

How to cite

Paolo Toto, Alzbeta Rejentova, Aristotelis Antoniou, Antipas Papageorgiou, Dimitri Egorov, Angelika Psenner and Freidrich Hauer; "A Digital Bridge for Collaboration in Cultural Heritage". In Carola Hein (ed.), *International Planning History Society Proceedings*, 19th IPHS Conference, City-Space-Transformation, TU Delft, 5 - 6 July, 2022, TU Delft Open, 2022.

Analysis and Translation of Resources Characteristics of Taiwan-related Traditional Villages Based on Historical Documentary in Fujian Province, China

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Abstract

As we all know, traditional villages are an important part of the cultural heritage system. In the past ten years, with the promulgation and implementation of national laws and policies such as “retaining villages”, “revitalizing villages” and “protecting historical and cultural heritage”, many traditional villages have been well protected.As one of the types of Chinese traditional villages, Taiwan-related traditional villages have high research value of cultural heritage. Among them, the resources of Taiwan-related traditional villages are the necessary conditions for the formation of Taiwan-related traditional villages. They are “resources that have the political, economic and cultural exchanges between Chinese mainland and Taiwan Province at the same time, can reflect the kinship of compatriots on both sides of the strait, are rich in historical, cultural, scientific, artistic, social and economic values, have a certain age, and can’t be separated from the environment of the village and its neighboring areas”. In order to truly protect Taiwan-related traditional village resources, it is necessary not only to improve the current planning system, but also to carry out in-depth quantitative analysis on the value of Taiwan-related historical resources, and to carry out digital analysis and translation of historical space and its transformation mode, so as to extract reliable historical information and cultural values from it and realize digital reproduction of the spatial change process.Based on the in-depth combing and interpretation of historical documents, the information of fragments in the documents is extracted, arranged and integrated, and verified by field research, so as to form complete information under historical documents, which is helpful to the interpretation of traditional village resources related to Taiwan. The understanding and analysis of the characteristics of village resources is based on the compilation of digital historical maps, and a large number of literature information, maps of ancient post roads for immigrants, maps of resource transmission paths and ancient village maps are translated into modern maps by scientific methods. The new historical maps have the functions of qualitative, positioning, fixed-point and fixed-value of spatial coordinates. Through a series of parametric analysis, comparative analysis and so on, the temporal and spatial evolution texture,

characteristics and transmission paths of village resources are excavated, and the connotation and development of village resources in Taiwan are revealed.

Keywords

historical philology, Taiwan-related traditional villages, Resource characteristics, Historical evolution, Modern translation

How to cite

He, Chenglin; Zhang, Jie; "Analysis and Translation of Resources Characteristics of Taiwan-related Traditional Villages Based on Historical Documentary in Fujian Province, China". In Carola Hein (ed.), *International Planning History Society Proceedings*, 19th IPHS Conference, City-Space-Transformation, TU Delft, 5 - 6 July, 2022, TU Delft Open, 2022.

Reverse architecture and digital twin in open standard for the transformation of heritage buildings

Pilot project: the Simplon-Orient-Express station in Vallorbe, Switzerland

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Abstract

Heritage buildings linked to important infrastructural projects present a specific set of architectural design challenges for their conservation and reuse. While storing valuable forms of cultural knowledge, they are not yet encompassed within current debates and methods on Building Information Modeling (BIM), their complex geometry defies standard forms of 3-D representation, and the planning documentation over their life-span has frequently been neglected or overlooked. The functional capacity of, for example, railway stations, must also be maintained at the same time as ongoing social and technological transformation takes place within their regional, national and international contexts. This paper argues for a combination of different digital tools in the documentation, maintenance and transformation of heritage buildings, and discusses in detail the innovative, pioneering methods of constructing a "digital twin" of the Vallorbe railway station in Switzerland, built in 1913 to accommodate the Istanbul- London Orient Express. Designed to accompany successive phases of the building's life-span, such digital models themselves can become long-term conservers of architectural history. Rather than an automatic process, digital twin construction requires a particular set of architectural skills, representing a new form of digital craftsmanship, which, when using open formats, can guarantee a sustainable, transnational transmission of planning practices.

Keywords

transnationalism, digital planning method, reverse architecture, digital twin, transformation simulations, national monument, Simplon-Orient-Express, Swiss Federal Railways, Building Information Modeling (BIM), data preservation, point clouds, open standard IFC.

How to cite

Cherix, Bernard; Mahoubi, Billal; "Reverse architecture and digital twin in open standard for the transformation of heritage buildings: Pilot project: the Simplon-Orient-Express station in Vallorbe, Switzerland ". In Carola Hein (ed.), *International Planning History Society Proceedings*, 19th IPHS Conference, City-Space-Transformation, TU Delft, 5 - 6 July, 2022, TU Delft Open, 2022.

DOI: 10.7480/iphs.2022.1.6513

Fig. 1. Taillens Dubois architectes, drawing of the Vallorbe Station, 1911.

THE VALLORBE STATION, A NATIONAL MONUMENT ON THE SIMPLON-ORIENT-EXPRESS LINE

Although the Alps cover around 60% of the surface, Switzerland boasts the world's densest railway network. Many parts of this comprehensive infrastructure also comprise important cultural heritage of European railway history, linking technology, building culture and public space. At the end of the 19th century, the international interests of Switzerland and neighbouring countries were focused on establishing a rail link from the North Sea to the Mediterranean across the Alps. Two tunnels were built: the Gotthard, completed 1881 and the Simplon between Brig and Domodossola, completed in 1906, which was the longest tunnel worldwide until 1982. Subsequently a direct route for the Orient-Express between Paris and Venice was sought. Instead of passing through Geneva, a shorter route through the Jura mountains with a new tunnel under the Mont-d'Or was decided on. As there were no major cities to host proper railway facilities in this peripheral location on the French side, both the Swiss and French railway companies jointly planned and realised a complex for their employees and the travellers, including customs buildings on the Swiss side[1] above Vallorbe- a town of around 4300 residents.The mountainous topography linked to the important new railway infrastructure required massive earthworks of 600 000m^3, one of the country's most significant.

The federal authorities aspired to an architecturally representative building in order to demonstrate the arrival in Switzerland directly after the Mont d'Or tunnel, in particular to the British gentry on their journey to the Orient. The station was designed by architects Taillens-Dubois[2] in Heimatstil, with local features deriving from Art Nouveau and known as Style Sapin [see Fig. 1]. Smaller stations in this style can be found in Sonneberg, Germany, Starý Smokovec, Slovakia or La Baule-Les Pins, France. Major works in Style Sapin are the crematorium by Belli, Robert and L'Eplattenier as well as the Villa Fallet by Janneret and Chapallaz, both in La Chaux-de-Fonds, Switzerland. However a building of this scale (5000m^2) in Heimatstil with its sculptural roof-shape, paintings on the façade and natural stone, was rare, signalling an impressive building solidly rooted in local architectural tradition.

As the Vallorbe Station had to be built on the slope of the mountain, stones excavated from the tunnel were used to build the foundations of the main building. But the slope was so steep that a second basement level had to be built. The architects planned a single basement only and never drew this level. Probably because of the lack of a plan, this remarkable level -2 in between the raw stones from the tunnel, has never been used [see Fig 6b, plan produced within this pilot project (with fictive design)].

From its completion in 1913 until World War II, the Vallorbe station received international royalty and many important travellers. However after the war, several changes led to a decrease in activity and reduced the prestige of the Vallorbe Station site. The electrification of the line made the operators redundant. The abandonment of this Orient-Express route in 1977 erased Vallorbe from the international traveller's map and the change of customs procedures made the two dedicated buildings vacant. Throughout this slow decommissioning, no accurate documentation of the complex was carried out; the sections and facades from the construction date of 1911 and the architectural plans from the 1950's.

POINT CLOUDS AND DIGITAL PLANNING METHODS FOR CONSERVATION

The Vallorbe station exemplifies the complex problematic of historical buildings of high cultural value located within transforming social, cultural and technological contexts. For this reason it has been chosen as the case-study under discussion- a BIM pilot project commissioned by the Swiss Federal Railways (SBB). Digital planning methods can offer long term solutions for the preservation of heritage stored within these cultural reservoirs. Such buildings need constant maintenance and upgrading to meet new technological requirements. Infrastructural changes must be accommodated and exploration of the spatial potential is important to understand how architectural transformations can be most effectively planned according to their historic value. Frequently, no complete set of drawings of the buildings exist. Under these conditions, we argue that three dimensional scanning of the building is an invaluable tool for the creation of transferrable documentation.

In addition, digitalisation itself creates further long term challenges. The transferability of data is hindered by the domination of different software companies meaning that valuable data can easily be lost. Such data is also a form of heritage that deserves to be preserved. To address this issue we propose the exclusive use of data in open formats.

Historic monuments, in particular related to infrastructure such as trains stations, undergo a cycle of one to two deep transformations per century, for example the electrification of the train tracks at the beginning of the twentieth century and currently the centralization of the track commands– first requiring the construction of command posts and signal boxes, and today their dismantlement. A digital model delivering accurate plans of the building is of great advantage throughout these transformations.

As no up-to-date documentation of the Vallorbe Station was available to build an accurate digital

model, three dimensional scanning was carried out. This scanning involved photo- and laser-grammetry from which two products were derived: 3D meshes and point clouds[3]. Point cloud is a format frequently used in archeological documentation, where the existing structures are particularly sensitive or cannot be touched.[4] It rapidly captures all objects that define space with the accurate precision required by the architect, however the procedure requires external specialists..In this case geomatic engineers scanned the facade and 60% of the interior of the building. The point density of the cloud is about 1 point / cm^2 and they are georeferenced in accordance to the Swiss reference system LV95[5]. The building has a surface of 5'000m^2 and a volume of 16'000m^3, resulting in 60 GB of structured point clouds to be used by the architect to build an accurate three dimensional model. Point clouds are highly precise but not directly exploitable for planning as they are almost unreadable in two dimensions and are not parametric entities, meaning they do not contain parameters that can be modified. Parametric entities are necessary in order to simulate transformations– that is to design, therefore the information from the point clouds has to be manually integrated into the digital model.

As the site's morphology is complex, 3D topographic meshes were used as reference for the terrain. But this topographical model must be remodelled for two reasons: firstly, the Lidar based mesh is also non parametric and can therefore not be modified. Secondly, the representation of topography with a Lidar mesh is not comparable to contour lines and is not readable in a plan view [cp Fig. 2A (mesh in 3D) and 6b (contours in 3D)].

One constraint for the planner is that for the production and development of digital models, CAD software requires its own coordinate origin and not that of the georeferenced data. The precision will otherwise be reduced and the calculation for 3D visualisation and movements will be increased by the large numbers of the coordinates.

The georeference however to be kept as the point clouds are imported in the CAD software and reintegrated in the model during the IFC publication procedure.

Georeferenced IFC allows planners to link all models spatially and a building owner such as SBB, to locate one object within a lager model that will contain all of their assets. Eventually the architect's models could complete the GIS model from the public authorities[7].

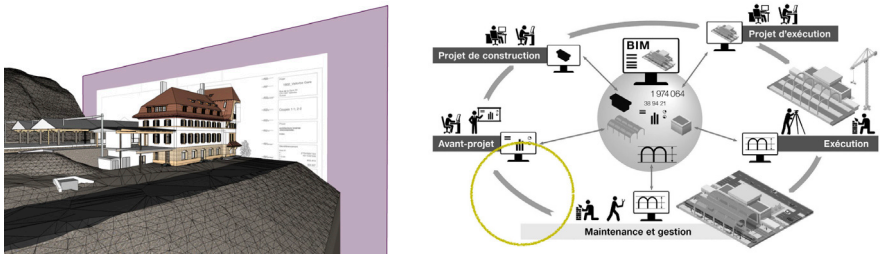

Fig. 2. A – Algorithmic extraction of a drawing – here a cross section – from the Vallorbe Station model. B – The five phases of the BIM method (from left, clockwise): 1. Preliminary design, 2. Construction design, 3. Execution project, 4. Execution, 5. Maintenance and facility management. The current projet explores data reuse between phase 5 and 1 (circled). The average time span of the loop is estimated to 50 years[6]. Note: the loop for the technical infrastructure can be completed in less than half the time. ing of the Vallorbe Station, 1911.

REVERSE ARCHITECTURE AND DIGITAL TWIN

Reverse architecture – a term used by R.L. Krikhaar in computer science[8]– refers here to studying an object to determine how it functions or how it is made. The principle is based on the collection of three dimensional scans of the object's surface. In addition to the point clouds, the architect will supplement his knowledge of the building with models of the terrain, archival plans, photographs, descriptions and any other document that can provide him with relevant information on the object to be "retro-designed". The product of this reverse architecture is a digital architectural model comprising geometric and alphanumeric data (descriptions in numbers and words).

The production of a parametric architectural model is carried out by systematically placing objects (e.g. walls, slabs, windows) in space using the point cloud as a reference [Fig. 4a: section through the building complex point clouds and digital models]. Currently some software, with artificial intelligence techniques, eases the making of digital model in the point clouds but it has not yet been automatized. Algorithms that recognise shapes within point clouds and insert pre-fabricated objects from a database at the right position exist in laboratories[9] and may be offered as tool on the market for the production of models within a decade. Nevertheless for historic buildings, the realisation of a data base containing historic objects (e.g. doors, bathtubs, convection heater from all centuries) does not make sense as almost all objects are unique and made by artisans.

Therefore the reverse architecture process, or in other words, the production of a digital model of historic buildings, will remain a step-by-step manual task for qualified people This virtual reconstruction of a building is a task requiring care and knowledge– a new kind of craftsmanship. It could be argued that this process represents a paradigm shift in architectural planning. In their research on "Media Agency", Barlieb and Gasperoni in fact present a case for the seamless merging of analogue and digital medien in the design process as potentially generating a radically new type of architectural thinking.[10]

A digital model of architecture alone cannot reveal all the knowledge contained in a historic building– models from civil engineers, mechanical, electrical, and plumbing engineering are also required. Within the lifespan of a building the technical infrastructure undergoes constant development –the service life of these items is about half of the building renovation cycle, which means that changes in this model will theoretically occur twice as frequuently as in the architectural model [see Fig. 2b]..

Following the production of the architecture model, an important task was to link a small library of 16 digital objects to be found in almost every train station – the ticket machine, the famous Hans Hilfiker design clock–to and an existing alphanumerical database of these items. An average station has hundreds of objects and each of them are recorded in a database that contains detailed information on, for example, the production factory, the date, the installation company, or the object warranty. All information on all objects would not fit in a digital model, therefore a second model was produced containing only these objects, using the architecture model as template, and linking them to the databank.

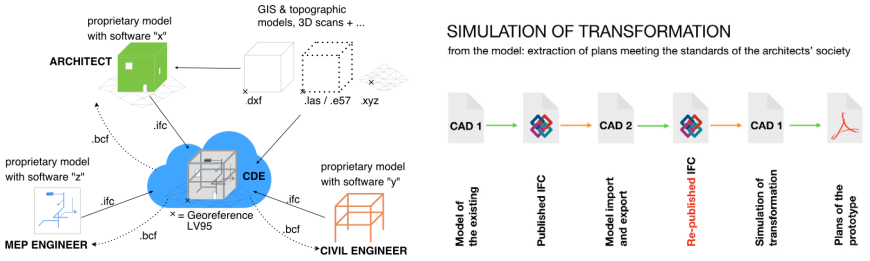

Fig. 3. A – Diagram for the production of plans after multiple reuses of the IFC by different software. B– Schema of the Vallorbe station digital twin in a CDE based on open standards.

Through this pilot project, the authors realized that to be more accurate, several models and types of data were required; the complementary geometric and alphanumerical information could not be integrated within the architectural or engineers models as they where in different digital formats or too substantial, for example the Geographic Information System (GIS) models, the point clouds from the geomaticians or the alphanumerical information related to the railways infrastructure.

Together, these different files represent the Vallorbe station, but in order to have a comprehensive "image" of the station, the files must be connected. This was achieved through severals links: the files were placed within a Common Data Environment (CDE), geometrical information were linked through identical georeferencing and alphanumerical data was linked to the model through objects identification numbers.

This ensemble of linked files within the Common Data Environment represents the "digital twin" of the station-

a term "digital twin" used by A. Pilling [Op.Cit.]. The entire set of data constituting the building is then the Digital twin for the Vallorbe Station [Fig. 3b].

DIGITAL DARK AGE VERSUS DATAS IN OPEN FORMATS

In today's digital age, transnational exchange in everyday planning practice is dominated by a handful of multinational software companies. These companies deeply influence our planning methods regardless of the regional specificities of the built environment. The pressure to progress and the business competition forces architectural practices to upgrade their software almost every year.

This constant and rapid development of software, also linked to hardware development, has both advantages and disadvantages;. software development makes extremely powerful tools available to small and medium-sized companies, constituting most of the architectural and engineering firms in Europe); these tools are now capable of processing huge amounts of data on a standard personal computer[11] to model entire building complexes. Within two decades the method of producing plans has been revolutionized[12]: today architects no longer draw all

plans but can extract them from the models using algorithms. [Fig. 2a]. The disadvantages are the obsolescence of these tools and the risk of digital dark age[13], where historic information becomes lost due to either the hardware or the software being no longer available.

One way of avoiding this obsolescence is by using open source software and open formats that respond to ISO standards. For the building industry and the BIM digital planning method, the open format is IFC, Industry Foundation Classes (ISO 16739). The institution that develops this format and delivers certifications for it, is buildingSMART; originally this international organisation was called International Alliance for Interoperability (IAI, 1994-2005)[14]. BuildingSMART is an important international platform for the exchange of ideas, technology and methods aiming at sustainable solutions. However to date, historic buildings have not been prioritized. While the international transfer of data using open standards is an important objective, the next generation of architects will be primarily confronted with the transformation of existing buildings.

This paper addresses this cultural-technological gap in architectural practice by pioneering the innovative use of digital models and open formats in the documentation and transformation of historical buildings.The current state of the art allows architects and engineers to produce digital models of buildings in open format IFC for almost all planning phases: design, construction plans and management. However the potential reuse of this format two or three decades after the building has been realized for a major transformation is still little understood. The authors argue that this lack of knowledge is due to the fact that the real uses of this format started less than two decades ago and buildings built with the BIM method are still too recent to be transformed.

For example a LOD 200 model for preliminary design of an historic industrial complex produced in 2002 with a CAD (computer aided design) software can no longer be used because the operating system no longer runs. Today, such a model can therefore neither be reused nor read. However, most of the model's geometry can be recuperated if published in the open format IFC 2[15] -it will be possible to extract plans that respond to architectural norms (see Bibliography), and is not linked to specific software.

The Vallorbe Station pilot project is between two planning phases: the phase of facility management when the building is in use, and the preliminary-draft for a major transformation of the building, when the digital model used for the first design will be reused [circled on Fig. 2b] to simulate the spatial and structural changes to occur within the building. At the completion of the works, the model can be used for facility management until the next transformation.

The authors argue that, the condition of reuse of the digital models between two long cycles of substantial transformations (see Fig. 2b) is to produce a digital twin in open formats. The next part describes in detail how this method was executed in the Vallorbe station pilot project.

Fig. 4. A – Representations of the digital twin. Left, section through: topographic model, point cloud –geomaticians– SBB infrastructure model –engineers–, architect model existing (black) and transformed (red) e.g. allowing access to people with reduced mobility. B – Architect's view of the transformation. Beyond the graphic aspect, the building's geometry is represented with 1cm tolerance and the shadow projection is exact (21.09.17/12:00).

SIMULATION OF TRANSFORMATION

Through the process outlined above, the digital twin containing following set of files on the Vallorbe train station was created. Ideally the digital twin should live a parallel life to the building: during the building maintenance, small updates should be performed with a simple tool[16] on the open format model. After 20-50 years [4/5 of the BIM cycle. See Fig. 2b] the open format model should be re-imported in a CAD software to simulate a major transformation of the building.

An important objective of the pilot project was to understand how the geometry and the basic information can be retrieved from the model in open format– still be readable in 20 years– in order to plan a major transformation of the building.

Today building models are often archived in formats determined by the software; any later modifications of these digital models are then carried out with the software from the architect or the engineer that produced them, restricting further use and transferability. However in this project, the open format model could be reused to produce architectural drawings that meet current standards independently from the software.

Unlike mainstream contemporary architecture produced with the BIM method, many historic buildings of cultural significance have a complex geometry. In the case of the Vallorbe Station the exact shape of the gambrel roofs above the two aisles and crossed by the one from the main central structure, had to be conserved in the open format IFC in Boundary representation (B-REP). This formality allows the representation of a complex 3D shape by defining the limits of its volume. It will then conserve the exact shape of the parametric model used for the simulation of transformation such as in the Vallorbe station, the geometry of the monumental swing stairs from the central hall including the cast iron banister [see Fig. 6a]

The objects requiring transformation can be processed according to different operations that all buildingSMART certified CAD softwares should be able to perform. This process begins with basic vectorial corrections and ends with the production of new 3D parametric objects.

Finally, in the pilot project the architectural model with the fictive design could be used to publish plans and sections on the scale of 1/250 and on the scale of 1/50 with a few graphic mistakes [Fig. 5a & b].

In many other countries, an oversized station for a village such as Vallorbe would have been sold in a procedure of investment reduction by the owner. The Swiss government has instructed the state-owned company SBB to make their property assets profitable, therefore they are seeking solutions for the future of the Vallorbe Station after the infrastructure for the railroad switches will be dismantled. Currently the building hosts several apartments and a restaurant that should remain.

The idea of a station as a destination in itself, rather than a walk-through building -has again become relevant for a station such as Vallorbe in the 21st century. Today, its international status depends only on the stop of the Lausanne-Paris high-speed train, which could be lost if this train passes through Geneva. It is therefore a station as a destination in itself that has guided the design of the transformation.

A historic example of a destination station was the one of Pavlovsk Park on the outskirts of St. Petersburg in the 19th century. The engineer who initiated the project proposed an amusement park at the end of the line in order to attract passengers. It included a restaurant, reception rooms, a promenade, and galleries in a garden. The "musical railway station", as R.Dayanov[17] called it, linking the two functions of train station and concert hall within a pleasure garden, was an innovative idea and a resounding success. This pleasure garden was based on the model of London's Vauxhall (whose design was noticed by gardener and witter John Evelyn in 1661[18]) dedicated to the emerging gentry. Within the Vauxhall compound, carefully-designed gardens surrounded concert halls and music pavilions – an idea that rapidly became fashionable, resulting in the construction of several further examples all around Europe[19].

During the Vallorbe station pilot project several scenarios of transformations have been developed. The current trends in terms of mobility have been studied by the SBB and the most suitable for an decentral and small area, such as this village, has been chosen. The station square, currently used for traffic, is liberated for socio-cultural activities.

The design for the transformation integrated several cultural and recreational programmes; an exhibition area in the majestic hall from the time of the Simplon-Orient-Express; a cineclub and an oriental bath, between the remarkable stones of the Mont-d'Or tunnel from the forgotten basement as well as a small hotel under the roof and in the rooms left empty by the obsolete infrastructure.

These proposals supplement the lack of cultural, leisure and touristic facilities in the town of 4000 inhabitants, which have slowly been closed down parallel to the steady population decline of around 16%; the only cinema closed in the 1970's and there is only one small hotel.

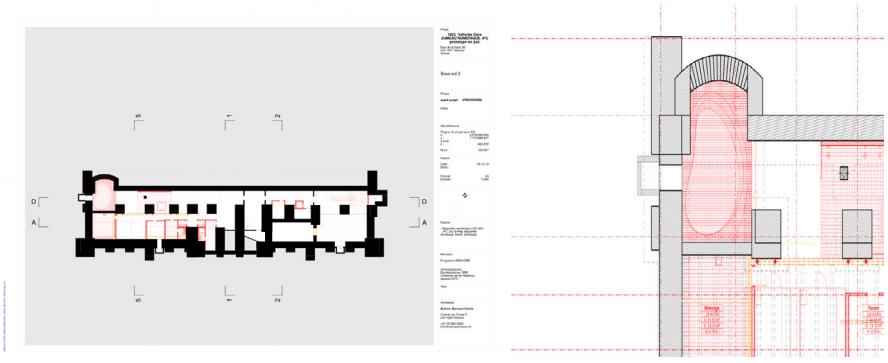

Fig. 5. A – Plan at scale 1/250 extracted from the model in LOD 200. B– Detail of a plan at scale 1/50 extracted from the model in LOD 300 showing the need of improvement by software developer: the wall was fragmented in IFC to reproduce its geometry, as the fragments are not associative they disrupt the graphic of the wall. The graphics of both plans is in accordance with the Swiss standard SN SIA 500 400.

CONCLUSION, THE OPEN FORMAT IFC FOR A CONTINUOUS RE-USE AND DOCUMENTATION

In continental Europe, architects and engineers work as independent practitioners to realise medium-sized building complexes. CAD is specific to the different professions: architects civil engineers and mechanical electrical or plumbing engineers[20]. The proposed transformation of Vallorbe station also represents a planning culture where the architect is commissioned directly by the building owner, as well as engineers. The design of CAD software responds to this specific planning culture.

In the case of planning errors, a lawyer will be engaged to define the responsibility of each party engaged and divide the costs according to the responsibility of the planners. This costly procedure has consequences for the planner therefore he will pay great attention to the plans – now respectively the models – he produces. The use of the open format IFC to exchange models amongst stakeholders during the planning phase is therefore important.

In the Anglo-Saxon, American and Oceanic planning cultures, building firms that include architects and engineers working as interdisciplinary teams, frequently realise either serial balloon-frame or high-rise building types. For this purpose, CAD is made to fuse digital models amongst colleagues from different disciplines with as little data loss as possible. In this case interoperability with open format is less relevant.

The Vallorbe prototype has been created with a non-exhaustive series of digital tools from both the European and Anglo-Saxon planning cultures, using a method currently applied only for the planning of new buildings rather than transformations. There are major differences in the use of digital tools in the different planning cultures. These differences appeared especially in the processing of open format which is essential in this project and for data conservation.

Fig. 6. A – Federation of point cloud and architectural model after transformation: view in the majestic hall toward entrance with fictive information desk. Point clouds demonstrate the accuracy of the architectural model. B – Exploded isometric of the design: the precision of the point cloud allows exact modelling and highly precise transformations simulations to the benefit of conservation.

The exchange of ideas and practices are intertwined. Ideas need practices in order to be implemented and practices need ideas to demonstrate their pertinence. Building plans are an important source of knowledge[21] that should be preserved. In the digital era as plans are extracted from the model, the model itself becomes the source of knowledge and it's conservation becomes of equal significance. Therefore only open formats such as IFC can guarantee a sustainable, transnational transmission of planning practices.

The prototype of the Vallorbe Station Digital Twin showed the possible continuous re-use and therefore the feasibility of a digital twin that has a parallel life to the building. For historic monuments with complex geometry, undergoing two major transformations per century, such a digital twin represents a great advantage for the planners, the building owner and other actors. The possibility to navigate through a virtual project is an important communication tool amongst users and stakeholders.

ACKNOWLEDGEMENTS

The prototype of Vallorbe Station Digital Twin was produced with the Institute of geomatics from the University of Applied Science and Arts of Western Switzerland (Insit, HES-SO) and following companies: Weinmann SA (MEP engineers), GIT-CAD SA, Abvent SA (CAD experts). Accompanying research: ETH-Zürich –Architecture and Building Process–. Dr. Nancy Couling, architect.

DISCLOSURE STATEMENT

No potential conflict of interest was reported by the authors.

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Based in Lausanne (Switzerland), Bernard Cherix, received his Master in Architecture by Research from the

Royal Melbourne Institute of Technology 2001, under Prof. Leon van Schaik & Prof. Matthias Sauerbruch, also winning the Australian-European Award Program (from DAAD) to carry out the research. Currently working on a digital twin to be applied on heritage buildings under other for the Schweizerische Bundesbahnen (SBB), Bernard taught openBIM at EPFL to master students in architecture and civil-engineering from 2016 to 2018.At neighbourhood scale, Bernard has been involved in voluntary collaborations with Prof. Jean-Bernard Racine, in particular regarding resident participation and the development of the newly completed neighbourhood's house in le Desert, Lausanne.

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Billal is Deputy Program Manager and head of Building Information Modelling (BIM) Processes and Guidelines at the SBB. Within this position he co-wrote the "BIM strategy paper" for the SBB. In 2017, as SBB representative to buildingSMART international he entered the IFCRAIL's steering committee. He led the project till the publication of a candidate standard in 2019. Billal hold his master degree in Civil Engineering 2014 from the EPFL by Prof. Michel Bierlaire on "Exploring approaches to model financial decisions".

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– Swiss Norm 592051 " Building Information Modelling (BIM) - Bases pour l'application de la méthode BIM" Zurich 2017 (this method is for new buildings only and does not concern the processing of GIS data)
– "Vallorbe Gare, Prototype de Jumeau Numérique –Architecture inverse & opneBIM-transformation–". Documentation of the eponymous SBB pilot project. B. Cherix, B. Mahoubi, 2020 (Unpublished)
Note: developers and software's names are available on request at <info@bernardcherix.ch>
– Computer Aided Design (CAD) software
G*** A*** / A*** R***
- IFC analytical software
N*** S***
– IFC Viewer
N*** S***, A*** U***
– Local CDE including model and point cloud viewer
K** B**
– Web based collaborative platform (or common data environment, CDE)
A** B**, C** B**

5 JULY: SESSION 4.1

PORTS AND CRISES.

Chair: Carola Hein

Reinventing the urban waterfront
A global planning history over half a century

Dirk Schubert
HafenCity University

Abstract

As we all know, traditional villages are an important part of the cultural heritage system. In the past ten years, with the promulgation and implementation of national laws and policies such as “retaining villages”, “revitalizing villages” and “protecting historical and cultural heritage”, many traditional villages have been well protected.As one of the types of Chinese traditional villages, Taiwan-related traditional villages have high research value of cultural heritage. Among them, the resources of Taiwan-related traditional villages are the necessary conditions for the formation of Taiwan-related traditional villages. They are “resources that have the political, economic and cultural exchanges between Chinese mainland and Taiwan Province at the same time, can reflect the kinship of compatriots on both sides of the strait, are rich in historical, cultural, scientific, artistic, social and economic values, have a certain age, and can’t be separated from the environment of the village and its neighboring areas”. In order to truly protect Taiwan-related traditional village resources, it is necessary not only to improve the current planning system, but also to carry out in-depth quantitative analysis on the value of Taiwan-related historical resources, and to carry out digital analysis and translation of historical space and its transformation mode, so as to extract reliable historical information and cultural values from it and realize digital reproduction of the spatial change process.Based on the in-depth combing and interpretation of historical documents, the information of fragments in the documents is extracted, arranged and integrated, and verified by field research, so as to form complete information under historical documents, which is helpful to the interpretation of traditional village resources related to Taiwan. The understanding and analysis of the characteristics of village resources is based on the compilation of digital historical maps, and a large number of literature information, maps of ancient post roads for immigrants, maps of resource transmission paths and ancient village maps are translated into modern maps by scientific methods. The new historical maps have the functions of qualitative, positioning, fixed-point and fixed-value of spatial coordinates. Through a series of parametric analysis, comparative analysis and so on, the temporal and spatial evolution texture, characteristics and transmission paths of village resources are excavated, and the connotation and development of village resources in Taiwan are revealed.

Keywords

Planning history, urban waterfronts, generations of transformation

How to cite

Schubert, Dirk; "Reinventing the urban waterfront – a global planning history over half a century". In Carola Hein (ed.), *International Planning History Society Proceedings*, 19th IPHS Conference, City-Space-Transformation, TU Delft, 5 - 6 July, 2022, TU Delft Open, 2022.

Port Modernization Perspective in the Netherlands and Japan
Highlighting the Contribution of Dutch Civil Engineers

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Abstract

In the 19th century, civil engineers outlined new planning perspective for port modernization or reform through hydraulic engineering: dredging, land reclamation, river improvement, dyke building and channel creation. In addition, these works for port modernization were closely connected with spatial urban development. Dutch civil engineers created the basic designs of the ports in Rotterdam and Osaka, which were the two leading modern ports in Europe and Asia from the 19th century to the 20th century. Owing to advances in port function contributed by Dutch civil engineers, this paper explores how to change urban structures by considering two ports from the Netherlands and Japan, using their investigative reports, design drawings and survey maps. In the Rotterdam Port project, Caland, a Dutch engineer, provided a comprehensive plan for improving the functions of rivers and ports. Rijke, a Dutch engineer, and other Japanese civil engineers also provided an effective plan for the Osaka Port Project. However, owing to topography, people's opposition and historical background, the project was not realised completely. The transition of the two ports shows how port modernisation provides modern industry and urban development, in which civil engineers played crucial roles as the first trigger.

Keywords

Comprehensive Planning, River Planning, Port City, Civil Engineering, Dutch Engineers.

How to cite

Iwamoto, Kazumasa; "Port Modernization Perspective in the Netherlands and Japan: Highlighting the Contribution of Dutch Civil Engineers". In Carola Hein (ed.), *International Planning History Society Proceedings*, 19th IPHS Conference, City-Space-Transformation, TU Delft, 5 - 6 July, 2022, TU Delft Open, 2022.

DOI: 10.7480/iphs.2022.1.6509

INTRODUCTION

During the mid-19th century, modern ports were established around the world in cities such as London, Hamburg, and Rotterdam. The port cities were the hub for the global economy with networks of trade and transport.[1] Therefore, urban elites desired and challenged the creation of new port using the given new technology through the Industrial Revolution. However, switching to the modern port was challenging and crucial for civil engineers and governments. To fulfil this mission, civil engineers outlined new planning perspectives for modernizations. Simultaneously, Rijkswaterstraat, the Directorate-General for Public Works and Water Management in the Netherlands, had appeared as a pioneer on the stage of hydraulic engineering in the world.[2] Their technology approaches, which included dredging, land reclamation, river improvement, dyke building, and channel creation, were progressive. They proved their status through the improvement of Rotterdam Port in 1872. After a while, Osaka Port started improving the port function for large steamships.[3] The history of modern Japanese ports started with European engineers from the Netherlands, the United Kingdom, and France.[4] This article reveals that Dutch civil engineers created the basic designs of the ports of Rotterdam and Osaka, which were the two leading modern ports in Europe and Asia from the 19th century to the 20th century. Schubert[5] mentioned that the Industrial Revolution provided a new connection of production, transportation and distribution through the port, making the transportation system that included large steamships more plannable. Thus, improving port function and developing urban structure were possible, which were contributed by the main actors of port modernisation, such as civil engineers, since the 19th century.

The new planning perspectives had to consider river improvements, port city development, waterway transformation and the defence of multiple natural hazards. Owing to the construction of large steamships, the narrow waterways of Rotterdam Port were no longer attractive to merchants. To address this situation, Pieter Caland, a Dutch civil engineer, provided an effective plan to improve Rotterdam Port. In 1872, new waterways were opened to traffic, and Rotterdam Port became the leading modern port in Europe.[6] Concurrently, Osaka Port in Japan faced a more complicated problem. In the 19th century, Japan's contact with the world was limited to Nagasaki Port, where only Dutch and Chinese representatives had been allowed to enter. To help with the modernization and to facilitate international trade, the Japanese government invited foreign experts to lead this transformation.[7] Several foreign engineers, including English, Dutch and Japanese, participated in the design process of Osaka Port from the 1860s. Finally, the construction was carried out based on Johannis de Rijke's design, a Dutch civil engineer. His comprehensive planning was divided into port and river parts for economic reasons.

This paper explores how to change urban structures due to the improvement in port function by considering two ports from two countries, using their investigative reports, design drawings and survey maps. Each case study was considered in different situations: topography, economy, technology and historical background. In conclusion, this paper highlights the contribution of Dutch civil engineers to the creation of modern ports and the development of urban areas in two countries, the Netherlands and Japan, from civil engineering and planning perspectives.

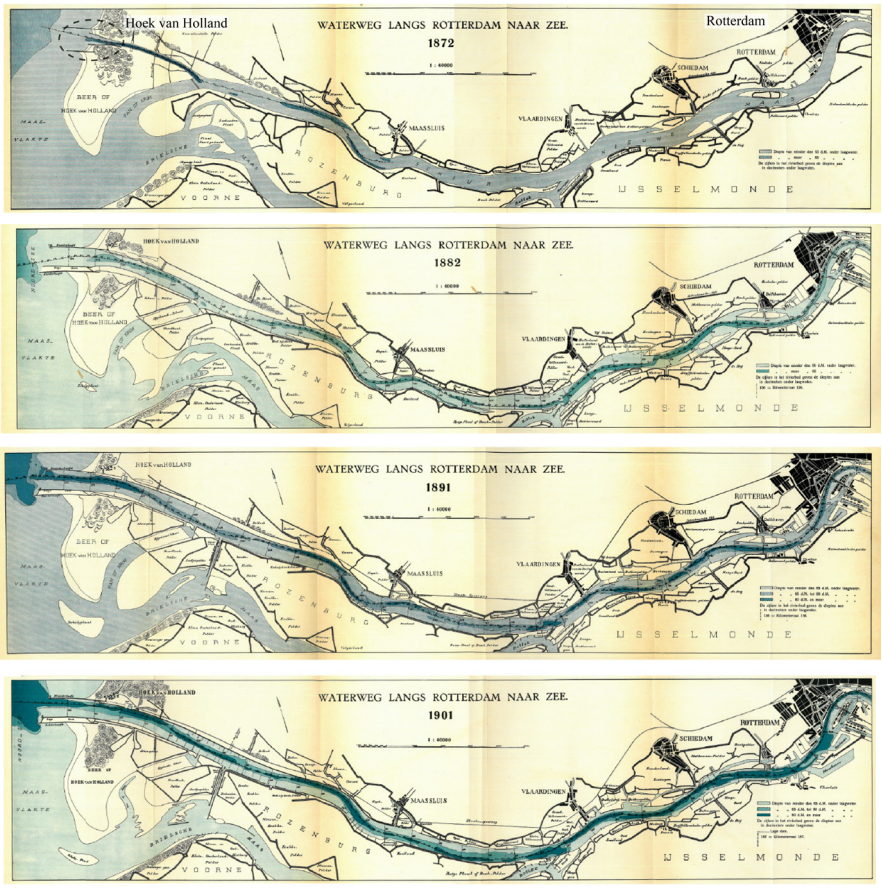


Fig. 1. Transition of the Rotterdam and 'Nieuwe Waterweg' from 1872 to 1901

ROTTERDAM, NEW WATERWAY PROJECT

The Industrial Revolution significantly impacted European ports, which were functioning as leading ports (e.g. Rotterdam Port). In the 14th century, the Rotterdam Port was just one in the Netherlands. However, after executing the project 'Nieuwe Waterweg' in 1872, Rotterdam began walking to Europort. Before this project's execution, Rotterdam Port was one of the ports holding the same mission as other European ports; thus, other projects were neglected. Rotterdam Port had nonuniform depth and narrow waterways and locks of various sizes in the routes from the sea to the port,[8] making it unattractive to merchants. In 1857, A. Greve, a Dutch civil engineer, who was working at the Rijkswaterstaat, provided an improvement plan for the new Maas River for Rotterdam Port ordered by the Dutch government.[9] Simultaneously, Pieter Caland, a Dutch civil engineer who was working at the Rijkswaterstaat, also made and submitted an

improvement plan containing almost the same content as Greve's. In both plans, building two dykes with fascine works on the new Maas River mouth was considered the main content for improvement. After a year, Caland resubmitted a largely improved plan and proposed the creation of a new channel that directly connected Rotterdam Port and the sea by cutting through 'Hoek van Holland.' This unique plan was inspired by an old Dutch civil engineer, and Caland upgraded it through scientific research.[10] The commissioner decided to adopt the second plan of Caland with some slight modifications, and mentioned that other plans were expensive and vulnerable to disaster.[11] Caland's plan was started as a 6-year project of $2,500,000 from 1863.

In this project, various factors were considered, such as the channel width, draft depth, dredging, structure of jetties and dykes with fascine works, calculation of tide stream, sediment deposit at the river mouth and cutting off the land. Therefore, the completion of this project was postponed in the 1870s. While under construction in Rotterdam, the Suez Canal was completed and a new trade route from the Netherlands to the colonial areas was built in 1869.[12] In addition, the new channel 'Nieuwe Waterweg' opened to the world in 1872. Simultaneously, Rotterdam Port became a mighty attractive port and started extending. In 1886, the Rotterdam and Delfshaven cities merged, and the population of Rotterdam City increased to 200,000. After the completion of the above project, the government of Rotterdam City had to spend to extend and maintain the port. The construction of bridges, dyke and wharves was included in the project, and $5,000,000 was expended from 1874 to 1888. Consequently, the Rotterdam Port acquired the 70 ha area of the basin in 1887, which was 2.6 times that of 40 years ago.[13] The project effects of 'Nieuwe Waterweg' were remarkable. First, the distance from the sea to Rotterdam Port was shortened from over 100 km to 15–34 km, depending on the entrance. This was more pronounced when converted to transit time. Before creating the channel, the merchants needed 2 to 5 days to reach Rotterdam Port from the sea. However, after creating the channel, they needed only 2 to 3 hours to reach there. Second, the towage between the sea and Rotterdam Port decreased from $15 to $7 on average, depending on the seasons. The merchants could also use free here to use in transit. Finally, all the ships went through Rotterdam Port directly, without locks and bridges. In later years, Caland indicated that 'Nieuwe Waterweg' was incomplete; in particular, water depth by dredging was shallower than his plan.[15] However, Rotterdam Port attracted numerous merchants and cargoes due to the success of the 'Nieuwe Waterweg' project.

Figure 1 shows the transition of Rotterdam and 'Nieuwe Waterweg' from 1872 to 1901 with four maps. In the first map of 1872, although the route width was still narrow, the new channel 'Nieuwe Waterweg' appeared in Rotterdam Port. Through the first to the fourth maps, from 1872 to 1901, some content was improved: land reclamation, new water route construction, channel widening, water depth deepening, urban area expansion and railway extension. In particular, the opposite bank development in Rotterdam Port was remarkable. After opening the 'Nieuwe Waterweg', the new docks for petroleum were built, and the railway networks were extended; thus, modern industrial areas emerged there. In addition, the 'Nieuwe Waterweg' project led to another development project near the river mouth area, 'Hoek van Holland'. Figure 2 shows the new development plan for 'Hoek van Holland' and 's-Gravenzande.[16] The railway networks had already been built from Rotterdam City to 'Hoek van Holland' in 1893. This plan had two purposes: the first was to include the 's-Gravenzande into the railway

networks, and the second was to create the new channel from the 'Nieuwe Waterweg' to the 's-Gravenzande and Scheveningen and to build the railway from there to the Scheveningen beach. Scheveningen was located near 'Den Haag' and attracted people who enjoyed leisure activities, such as fishing. Thus, the implementation of this plan was going to contribute strongly to the development of Den Haag through the construction of channel railway networks with Rotterdam Port.

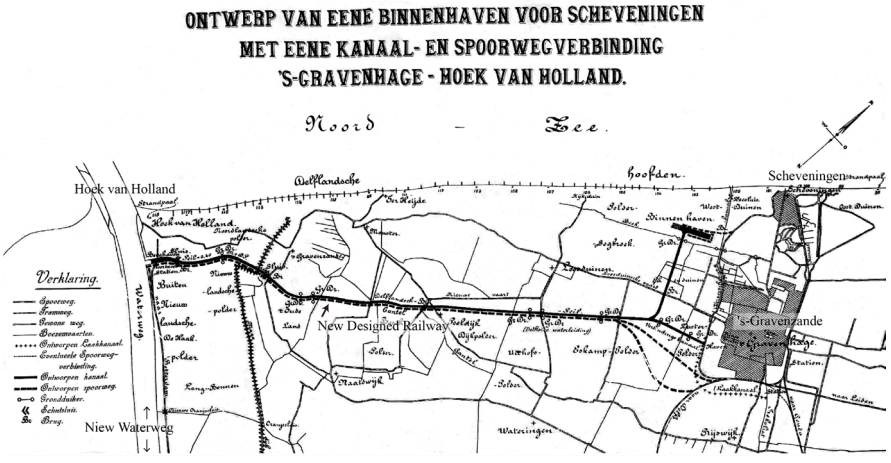


Fig. 2. New development plan for the 'Hoek van Holland' and 's-Gravenzande.

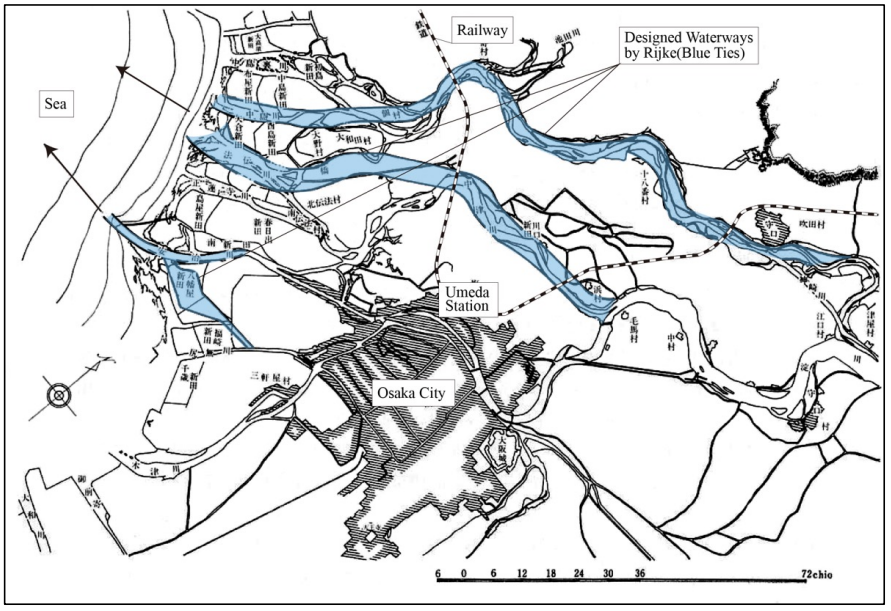


Fig. 3. New comprehensive plan '大阪築港並淀川洪水通路改修計画', designed by Rijke in 1887

OSAKA, NEW SEAPORT PROJECT

Osaka Port was the leading modern port in Asia from the 19th century to the 20th century. However, in the early 19th century, Osaka Port lost its function for trade with international merchants. In 1858, the Japanese government concluded opening five ports—Hakodate, Kanagawa, Nagasaki, Niigata and Hyogo—in the treaty of Amity and Commerce between the United States and the Empire of Japan.[17] In this treaty, the Japanese government purposely did not choose Osaka Port as an opening port because it accounted for 70% of the benefits accrued from national trade in Japan. In other words, the Japanese government was afraid of foreign merchants usurping the benefits. Finally, although Osaka Port was opened in 1868, the modern port function almost moved to Hyogo Port, which also opened in 1868. No large Western ships used Osaka Port in 1875 because the train connecting Osaka and Kobe had Hyogo Port.

In the 19th century, Osaka Port had a critical defect as a modern port. The river mouth was too shallow, thereby making large steamships unable to moor there. Although Osaka City had been a commercial city since early modern times, the Osaka Prefecture Governor decided to improve Osaka Port to industrialize the city.[18] First, he ordered Richard Henry Brunton, an English civil engineer, to investigate port conditions and make an improvement plan. The key issue was how to remove the sand drift, and Brunton made a plan to build breakwater for blocking it to the port area. He also reported that his plan did not require dredging sand for a long time. However, his investigation and designed plan were not feasible. Subsequently, Cornelis Johannes van Doorn, a Dutch civil engineer, was assigned as a designer in 1872.[19] The main feature of his plan was how to remove the sand drift using tractive power. His plan was also criticized by Johannis de Rijke, a Dutch civil engineer. According to Rijke's report, the plan design by Doorn needed extraordinary cost, and tractive power could not remove only light sands. The Osaka Prefecture Governor requested a new plan from Rijke. In 1887, Rijke submitted a new comprehensive plan '大阪築港並淀川洪水通路改修計画', which included the improvement function of the river and port (Fig. 3). In 1885, the embankments collapsed owing to flood disaster two times in the Yodo River, which flowed to Osaka Port; afterwards, smallpox and abdominal typhus spread due to worsening hygiene. In 1889, a flood disaster struck the Yodo River again and cholera spread in 1890. Therefore, neighbors in Osaka strongly searched for an improvement in hygiene problems. A new comprehensive plan designed by Rijke was aimed at solving the two big problems: ports for large steamships and rivers for hygiene problems. Concurrently, the Osaka City Council decided to build new waterworks in 1890 and started construction in 1892 to improve hygiene problems in the city. For this reason, the budget for construction was reduced and Rijke's plan was delayed.

Rijke considered his plan's feasibility by exploring the Japanese economy and technique, and he outlined new lands created by reclamation near Osaka Port, indicating that his plan was connected to urban development. His plan features were also included in the survey methods. His surveys included some scientific topics, sediment amount, tide level, tide direction, its speed, sea bottom geology, wind direction and wind speed. Rijke continued to survey them after submitting his first comprehensive plan '大阪築港並淀川洪水通路改修計

画', improved it and resubmitted the new Osaka Port Plan in 1897. The new plan indicated building only ports, excluding river improvement, and constructing as a seaport, not on the river mouth (Fig. 4). The reason for cutting out the river improvement was because of his new plan of moving large steamships to Osaka Port in the future. To realize his plan, Rijke studied and referred to some other countries' ports, such as the Netherlands and Indonesia.[20] After submitting a new plan, the Osaka City Council requested a subsidy, unlike the Japanese government, which requested a plan revision to include larger ports for moving larger steamships. Ships of 3,000 tons of burden were prevalent at the end of the 19th century, but the size of ships became more than twice in the early 20th century. The Japanese government established a committee for revising Rijke's plan; Koi Furuichi and Tadao Okino, Japanese civil engineers, were included. The committee revised some points, including construction of larger and deeper ports, train station construction and building 330,000 m2 of land by reclamation for the military reservation. In 1897, Osaka Port Construction began. Initially, the Osaka City Council assigned Rijke as a project leader, but the Japanese government commended and assigned Okino to the role.

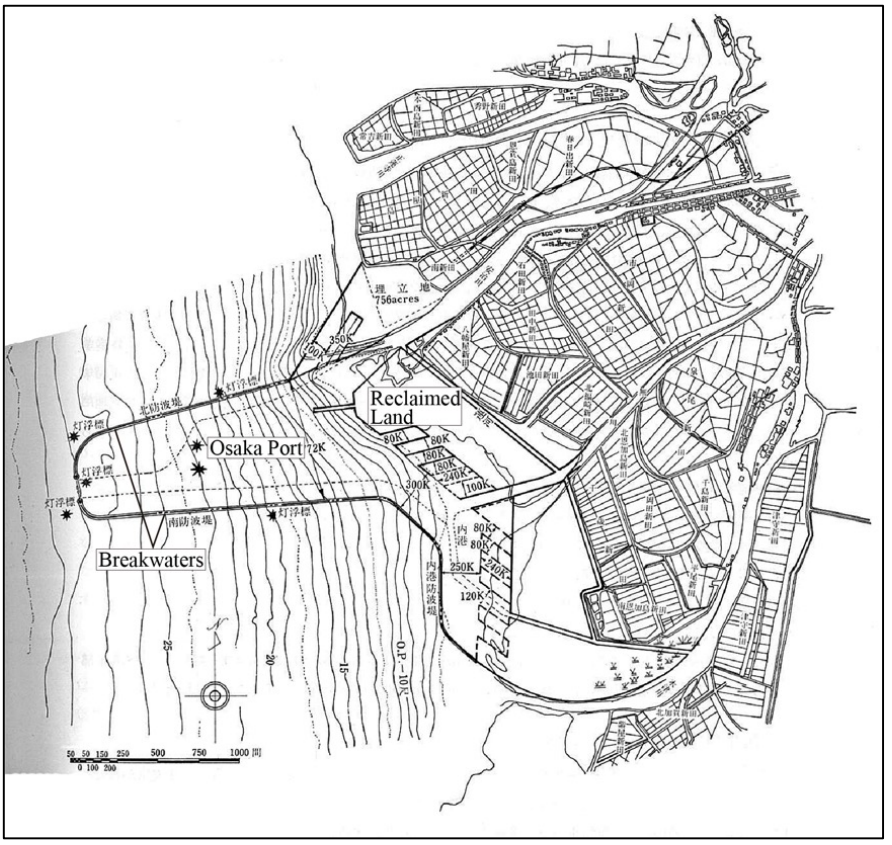
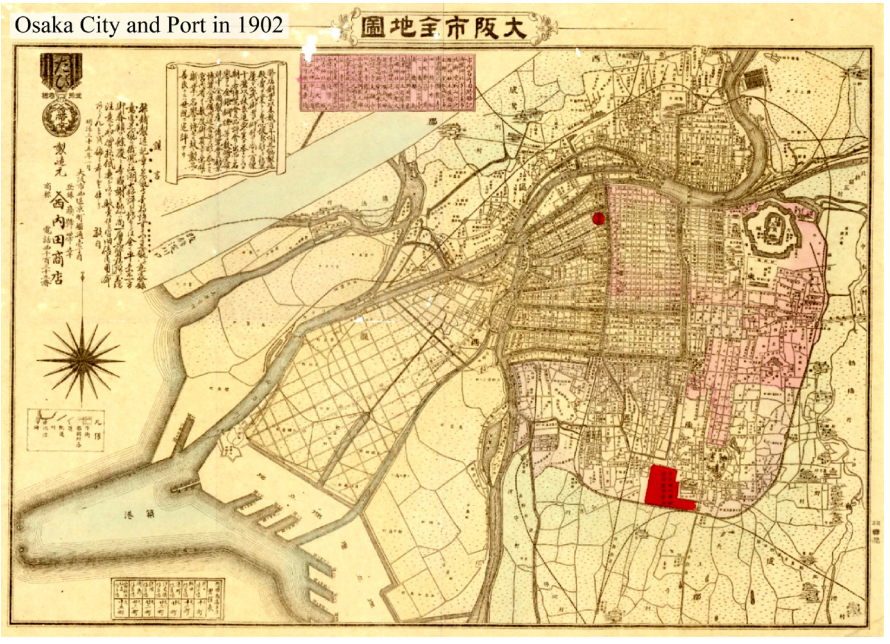


Fig. 4. Resubmitted plan for Osaka Port in 1897



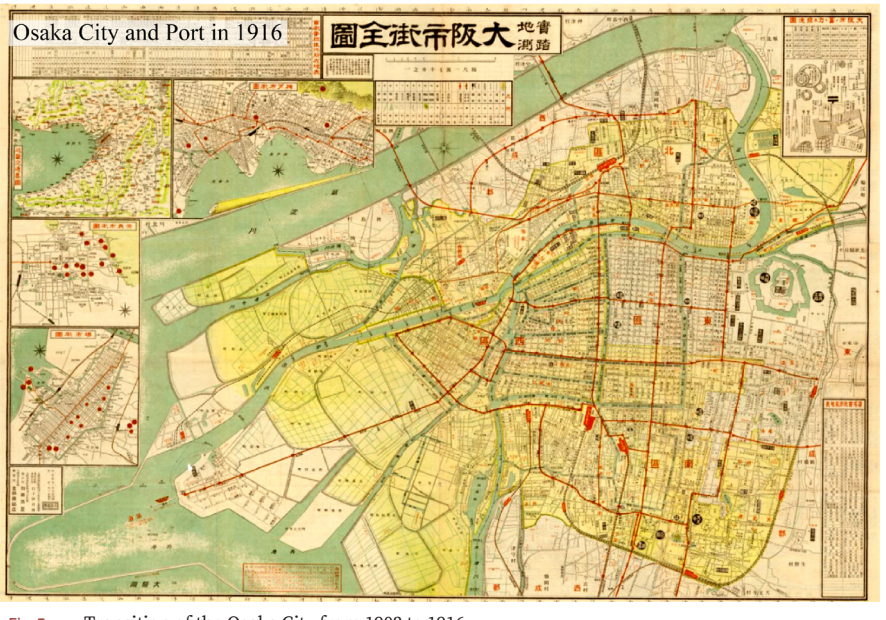


Fig. 5. Transition of the Osaka City from 1902 to 1916.

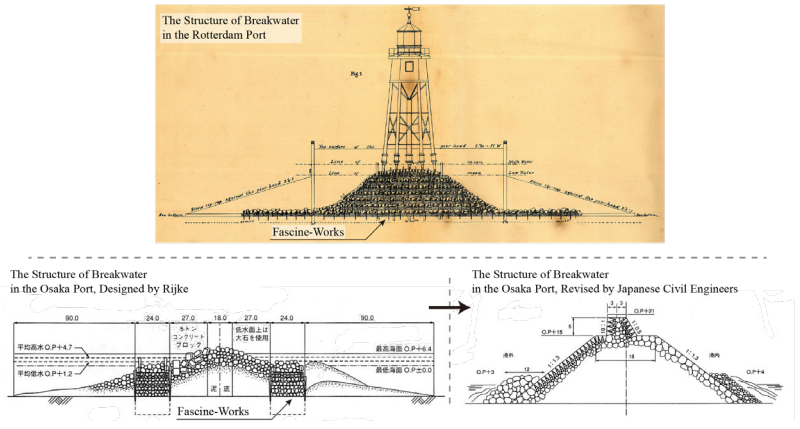


Fig. 6. Each breakwaters in Rotterdam and Osaka

The first construction was building breakwaters for the inner port in 1897. Okino changed the construction method and structure of the breakwaters from Rijke's plan because his plan was considered too difficult by the committee. The construction of dredging and reclamation was executed using steam machines imported from Germany, Scotland and the Netherlands. Lands of 500,000 m^2 were to be created by reclamation; however, only lands of 150,000 m2 were created due to a lack of construction costs. Furthermore, iron piers, with a total length of 455 m and a width of 27 m, were built on Osaka Port in 1903. These constructions progressed smoothly, and the port was partly opened in 1903. During the Russo–Japanese War, 1904–1905, numerous ships moored Osaka Port, which functioned as a supply base for the Japanese army; hospital and provision stores were built on the reclaimed land[21]. However, after the Russo–Japanese War, the progress of the port construction was slowed: building revetment, dock, quay wall and land transportation were not still there. The port construction of the second period was restarted in 1915. Finally, after completion, Osaka Port gained an international trade network with those of the United Kingdom and Germany.[22]

The influence of Osaka Port construction on urban development was huge. In 1903, Osaka City started to construct the electric tramway from downtown of Osaka City to Osaka Port through the reclaimed land. Generally, the tramway project was implemented by a private company; however, this project was proposed and implemented by Osaka City. Therefore, this project was completed in only seven months. Numerous factories were built on the urban suburb and reclaimed land near Osaka Port; hence, the people residing in Osaka City used the electric tramway as a means of moving to the factories and port. The Osaka City Government also issued the discount ticket in the morning to them. Osaka City obtained and kept human resources and income and thus became a modern industrial city. Figure 5 shows the transition of Osaka City from 1902 to 1916. The road, electric tramway, and train network were expanded; additionally, new urban districts, factories and port facilities appeared on the map. This development meant that building a new port connected the building of the transport network on land and urban expansion. However, as a modern industrial city, Osaka City had to face the pollution problem owing to much smoke from the factories. This pollution problem indicates a modernization transition.

CONCLUSION: PORT MODERNIZATION PERSPECTIVE IN THE NETHERLANDS AND JAPAN

This section discusses the crucial roles played by civil engineers in spatial urban development. Considering the two port projects explored earlier, some commonalities and differences are highlighted. First, the motivation for the two projects was almost the same: a considerable amount of money was invested in improving the port for large steamship navigation. In contrast, the strategies used by the civil engineers differed: creating a new channel by cutting the land near the sea, as in the Rotterdam case, and building the basin on the sea by dredging and land reclamation, as in the Osaka case. However, as civil engineers, similar approaches were used to remove drift sand from the sea, indicating that knowledge of Dutch civil engineering was transported from the Netherlands to Japan with practice in Osaka. In addition, the Dutch civil engineers employed by the Japanese government provided their knowledge with several practices. In particular, the design of breakwaters with fascine works in both countries followed the same line of Dutch technology. Rijke also used it to design breakwaters in the Osaka Port Project because the sea bottom was weak and soft. Meanwhile, other Japanese civil engineers modified his design to a simpler one and implemented it (Fig. 6). However, during the construction, the new design caused flow failure on the sea bottom because it did not adapt to the ground type. Considering these results, Japanese civil engineers might have inherited Rijke's theory from the Osaka Port Project.

Second, regarding the influence of port construction on spatial urban development, the same country's civil engineers, the Netherlands and Japan, made a basic plan; each case had some characteristic points. A common point was the connection of trade network, both internationally and nationally, through the sea to the inland by building transportation infrastructures: railway, road and port. This improvement provided numerous benefits to the cities: job creation, city area expansion, enterprise attraction and population growth. By considering the process of improving the two port cities, the contrast of each benefit completely differed owing to some other conditions: politics issues, topography and urban strategies. They created the spatial characteristics of each urban space. For Rotterdam, the city area and port were located in the upper part of the new Maas River. Therefore, after building the railway from the center of Rotterdam City to the south, the opposite bank in the Rotterdam Port and the west, 'Hoek van Holland', new areas were reclaimed that included industrial, leisure and residential places. For Osaka, the city area and port were located close to the sea due to the nonflat ground and river. Hence, the railway was first constructed from the central city to the port area. Simultaneously, hinterland and the middle areas between port and city were included, becoming new areas of industry and residence. However, some issues remained to be improved: transporting smoothly to the hinterland and creating some leisure places. Thus, Osaka Port and City required expansion. Rotterdam Port and City, however, chose to expand and connect with the near satellite city. In particular, the urban actors in Rotterdam had enough area to expand and develop the city from the center of Rotterdam to the river mouth; this was attractive for them.

Port modernization provides modern industry and urban development. In this regard, civil engineers contributed as the first trigger in the Netherlands and Japan. Their plans provided a

framework for tangible and intangible urban development. In the Rotterdam project, Caland provided a comprehensive plan for improving the function of the river and port. Rijke and other Japanese civil engineers also provided an effective plan for the Osaka project. However, owing to topography, people's opposition and historical background, the project was not completely realized. Finally, some parts of the port were completed, and Osaka Port gained a new global shipping network like Rotterdam Port. Simultaneously, these two ports caused the expansion and change of urban structures with the construction of other infrastructures, such as railways.

ACKNOWLEDGEMENTS

This work was supported by Japan Society for the Promotion of Science (JSPS), Grant-in-Aid for Young Scientists, Grant number 20K14943.

NOTES ON CONTRIBUTOR

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Reinventing the urban waterfront
A global planning history over half a century

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HafenCity University

Abstract

As we all know, traditional villages are an important part of the cultural heritage system. In the past ten years, with the promulgation and implementation of national laws and policies such as “retaining villages”, “revitalizing villages” and “protecting historical and cultural heritage”, many traditional villages have been well protected.As one of the types of Chinese traditional villages, Taiwan-related traditional villages have high research value of cultural heritage. Among them, the resources of Taiwan-related traditional villages are the necessary conditions for the formation of Taiwan-related traditional villages. They are “resources that have the political, economic and cultural exchanges between Chinese mainland and Taiwan Province at the same time, can reflect the kinship of compatriots on both sides of the strait, are rich in historical, cultural, scientific, artistic, social and economic values, have a certain age, and can’t be separated from the environment of the village and its neighboring areas”.In order to truly protect Taiwan-related traditional village resources, it is necessary not only to improve the current planning system, but also to carry out in-depth quantitative analysis on the value of Taiwan-related historical resources, and to carry out digital analysis and translation of historical space and its transformation mode, so as to extract reliable historical information and cultural values from it and realize digital reproduction of the spatial change process.Based on the in-depth combing and interpretation of historical documents, the information of fragments in the documents is extracted, arranged and integrated, and verified by field research, so as to form complete information under historical documents, which is helpful to the interpretation of traditional village resources related to Taiwan. The understanding and analysis of the characteristics of village resources is based on the compilation of digital historical maps, and a large number of literature information, maps of ancient post roads for immigrants, maps of resource transmission paths and ancient village maps are translated into modern maps by scientific methods. The new historical maps have the functions of qualitative, positioning, fixed-point and fixed-value of spatial coordinates. Through a series of parametric analysis, comparative analysis and so on, the temporal and spatial evolution texture, characteristics and transmission paths of village resources are excavated, and the connotation and development of village resources in Taiwan are revealed.

Keywords

Planning history, urban waterfronts, generations of transformation

How to cite

Schubert, Dirk; "Reinventing the urban waterfront – a global planning history over half a century". In Carola Hein (ed.), *International Planning History Society Proceedings*, 19th IPHS Conference, City-Space-Transformation, TU Delft, 5 - 6 July, 2022, TU Delft Open, 2022.

With or Without Oil?
The Spatial Challenges Awaiting Cities like Dunkirk

Stephen Hauser
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Abstract

The oil industry first started in the 1860s on a local scale with businessmen investing in their own cities. At first, small facilities emerged at the periphery of port cities to better export petroleum products. Many port cities like Dunkirk, in the North of France, grew hand in hand with this oil industry. Yet, if modern ports have now dedicated spaces, the peripheries of the past are parts of the contemporary urban tissue. The aim of this presentation is to illustrate the importance to consider past spatial practices linked to industrial activities. The discussion turns around the question: How former oil sites are influencing the contemporary planning of cities and the life of inhabitants? These past planning practices are often ignored in the design of planning strategies today but still have spatial and potential health consequences. This situation is partly the result of the early influential power of local or national oil actors. When oil businessmen reached political positions, they influenced, if not controlled, the creation of rules and planning strategies linked to industrial activities. Such practices led to a transformation of the city and of land uses that were not compatible with former functions. These

Keywords

Health, Laws, Oil Industry, Planning History, Planning Strategies, Policy

How to cite

Hauser, Stephan; "With or Without Oil? The Spatial Challenges Awaiting Cities like Dunkirk". In Carola Hein (ed.), *International Planning History Society Proceedings*, 19th IPHS Conference, City-Space-Transformation, TU Delft, 5 - 6 July, 2022, TU Delft Open, 2022.

5 JULY: SESSION 4.2

SPECULATION AND THE CITY.

Chair: Maggie Gold

Youngstown's Crandall Park
An Interwar Speculative Neighbourhood and Stability in a Landscape of Boom and Bust

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Abstract

Youngstown, Ohio, a small U.S. city midway between Cleveland and Pittsburgh, saw an unprecedented increase in population between the World Wars due to industrial development. In the 1910s, the city busily prepared for expansion, and the Realty and Guarantee Trust Company, local government, and a handful of rural landowners prepared for the development of a new suburb for the entrepreneurial elite and upwardly mobile to the north. The neighbourhood of Crandall Park, anchored by an eponymous park, took form based on a handful of public/private agreements and some boilerplate deed covenants. Within this framework, private clients hired various contractors and architects to create a great variety of houses in terms of style, type, and size. Though only a loosely planned speculative venture, Crandall Park had become one of Youngstown's most desirable neighbourhoods by the Great Depression. With the departure of the steel mills in the late 1970s, Youngstown's landscape changed drastically. The city depopulated, and its demographics shifted, yet the fabric of Crandall Park is notably intact. This paper proposes certain of Crandall Park's qualities brought about by its Interwar inception (particularly as related to diversity and variety) have allowed it to remain a stable presence on Youngstown's landscape.

Keywords

Interwar suburb, stability, planning diversity, speculative developments

How to cite

Farris, Johnathan; "Youngstown's Crandall Park: An Interwar Speculative Neighbourhood and Stability in a Landscape of Boom and Bust". In Carola Hein (ed.), *International Planning History Society Proceedings*, 19th IPHS Conference, City-Space-Transformation, TU Delft, 5 - 6 July, 2022, TU Delft Open, 2022.

DOI: 10.7480/iphs.2022.1.6500

INTRODUCTION

Youngstown, Ohio, is a small city located midway between Cleveland and Pittsburgh. Between the World Wars, the city saw an unprecedented increase in population due to the development of steel and other heavy industries, increasing in population from just over seventy-nine thousand people in 1910 to just over one hundred seventy thousand in 1930.[1] The city prepared for expansion, and the Realty and Guarantee Trust Company, local government, and a handful of rural land owners prepared for the development of a new suburb for the elite and upwardly mobile to the north of the city as it then existed.[2] The suburb (fig. 1) would be anchored by a new public park, named Crandall Park after donors of the land.[3] A loosely planned speculative venture, Crandall Park had become one of Youngstown's most desirable neighborhoods by the Great Depression. When the steel mills closed in the late 1970s, many areas of Youngstown were abandoned to blight, and subsequently an aggressive demolition policy emerged, leaving great swaths of the city's neighborhoods fragmentary. Though Crandall Park itself faced demographic and economic changes, its has remained one of the most intact districts. This paper concludes that Crandall Park's qualities that were brought about by its Interwar inception (particularly as related to diversity and variety) have allowed it to remain a stable presence on Youngstown's architectural landscape.

THE NEIGHBOURHOOD TAKES SHAPE

The neighborhood surrounding Crandall Park was part of a larger northward expansion of the city's middle and upper classes into the high and flat terrain between the Mahoning River Valley to the east and its tributary Crab Creek to the west, both flanked with steel mills and other factories.[4] Downtown is situated in a valley along the Mahoning River and is laid out at approximately forty-five-degrees off the cardinal axes. The first phase of northern expansion, development around thirty-four-acre Wick Park around 1900, shifted the grid back to the cardinal directions.[5] Running through the middle of the northern heights and bounding Wick Park on one side is Fifth Avenue (in a city without a fourth or sixth avenue), the spine for further northward expansion, initially limited by a ravine known as Andrews Hollow.

In 1910, the Realty Guarantee and Trust Company (aka the Realty Trust Company, aka the Realty Company) launched a plan to develop the area around Andrews Hollow and points further north up to the county line with a proposal to the city.[6] The trust company had established a consensus among the landowners in the vicinity of the gorge to donate it and surrounding land for the purpose of a public park, to be bounded between undulating streets named Tod Lane and Redonda (now Redondo).[7] This had importantly received the blessings of Volney Rogers, the force behind the city's 1890s development of Mill Creek Parks, an innovative early park district.[8] The official communication from the trust company to the city outlined the deal to be struck:

> *"We will agree…to improve the two streets… by doing at our own expense and cost, all of the grading, laying of sewers, putting in the side-walks and curbs and paving them with Bessemer brick all to be done under the directions of the City Engineer.… In consideration of this gift…all we ask the city to do, is to agree that sometime in the future but no longer than five year from its acceptance of this land for a park, that it build or cause to be built across "Andrews Hollow" where Fifth Avenue extended on its present course, would cross the same, a proper and adequate Bridge…"*[9]

The ordinance enacting this was approved on October 10, 1910.[10] Funds had been raised for platting and subdividing around the park by 1911 but further development of the plans was slow to emerge.[11] By 1915, the open spandrel concrete bridge had at last been constructed, opening development beyond the ravine, and finalizing the platting of the new suburb had begun, as reflected in a map from the city atlas (fig. 2).[12] The new streets relieved the northward march of the grid not only with the irregularly shaped park and flanking Redondo Road and Tod Lane, but also with curved terminations to Goleta and Catalina (fig. 3) Avenues, longer blocks, and some short dead-end streets. The majority of new streets received names redolent of sunny California.

The park began as scenic open greenspace, with a scattering of native trees, mainly oaks and maples. An allée of London plane trees (a hybrid species resistant to pollution) was added along Tod Lane and Redondo. A small Colonial Revival pavilion was added to the park in 1930 and the WPA produced a rustic picnic shelter on the north side of the park near Fifth Avenue in 1936.[13] Lots across from the park and then along Fifth Avenue (particularly where it divides into a proper boulevard) became sought after by the city's established and upwardly mobile families. Additional attractions for some inhabitants were the adjacent St. Edward's Catholic Church (1917) on the eastern edge of the district and a nearby elementary school.

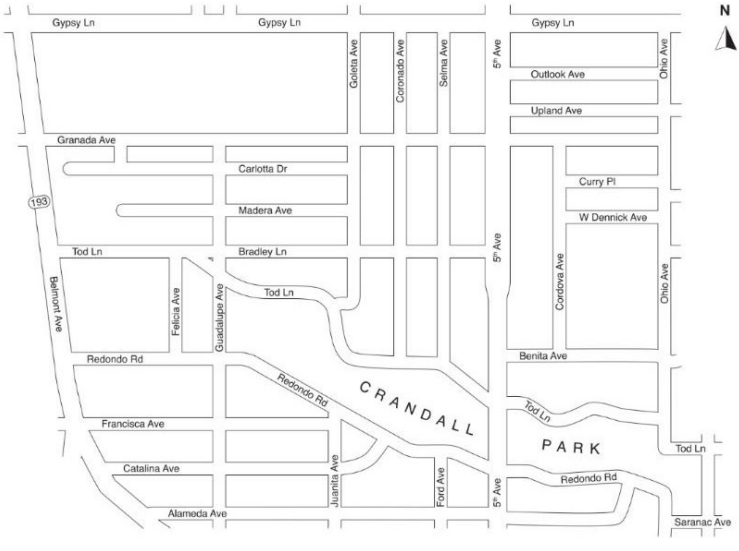

Fig. 1. Street plan of the Crandall Park neighbourhood in Youngstown, Ohio, as it exists today.

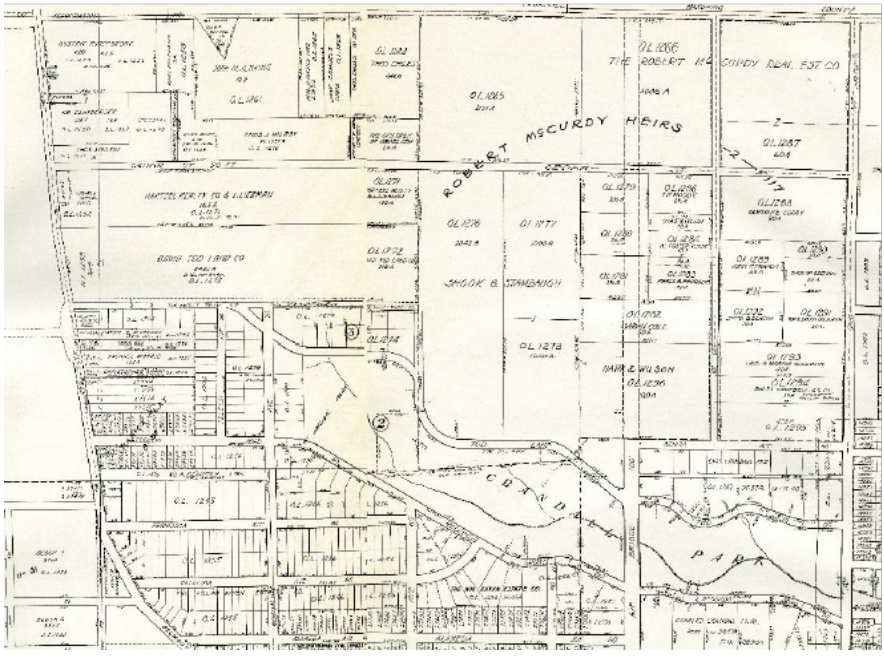

Fig. 2. Map of the Crandall Park neighbourhood as it was begun to be platted. This is compiled from two separate pages of the 1915 city atlas.

Fig. 3. The Catalina Avenue "curve." A scenic vista in the irregular plan surrounding the park, this shows the original Bessemer brick road.

CREATING THE STREETSCAPES

The Realty Guarantee and Trust Company had one additional role in shaping the neighbourhood appearance. It controlled building type and lot size and implemented other zoning regulations within the deeds it generated for sale to the prospective homeowners. Lots on Fifth Avenue, lots adjacent or facing the park, and near Gypsy Lane (the county line road northern boundary) generally were larger, and often dictated a larger minimum size for the house. The specified setback of the house from the street generally reserved more space for front yards than back yards. A deed for a typical lot across from the park, which would have a mid-sized (two thousand square foot) house built upon it, reflects the overall format of the boilerplate text generated by the realty company:

> *"...said premises should be used and occupied for private residence purposes only; that no double house, flat, terrace, apartment house, duplex house, or other form of community dwellings and no business or commercial building or block shall be erected on said premises...; that not more than one, one-family dwelling house shall be erected or placed on said premises; that such... shall be not less than nine hundred sixty (960) square feet in size on the ground, which dimensions shall be exclusive of open porches, windows, bays, steps, garage, or any excavation thereunder; that no building of any kind shall be erected or placed so that any part of the same... shall be within fifty-five (55) feet from the line of the street to the body of the house, ...and that said dwelling house to be erected... shall be not less than a two story building."*[14]

Variations of this wording (with variations according to the status of the street—Corodova Avenue and western Tod Lane, for example, were worded to accommodate duplexes as part of the scheme and smaller back streets like Felicia Avenue allowing one story construction) appeared in every deed. This was true not only of the original Realty Guarantee and Trust streets, but other realty companies that took charge of later streets added to the neighbourhood plan.[15] This frame of deed regulation allowed a variety of people to chose lots and built houses expressing their domestic aspirations. Dwellings in a great variety of sizes (ranging from one to six thousand square feet) and shapes (drawn from Arts and Crafts and a range of academic revival styles, including Colonial Revival, Tudor/Medieval Revival, Mediterranean Revial, and Chateauesque, but also including simple vernacular structures) soon lined the streets. The great variety of domestic possibilities attracted corporate executives and downtown business owners, but also brick masons, fire chiefs, confectioners, and the upper tier of skilled industrial workers.

While the first house facing the park and many of the grand houses on Fifth were built by Youngstown's "Old" British-descended Protestant families, a substantial number of first-generation immigrants chose to build in the neighborhood during its first generation, ensuring a social inclusiveness from the beginning.[16] A group of prominent Jewish businessmen who had been born in Central or Eastern Europe claimed lots on Tod Lane, near the Reformed Rabbi Isador Philo on Selma, and on the east side of Fifth and south side of Outlook. The proximity of St. Edward's Church also drew upwardly mobile Catholic immigrants to the area. Two prominent Italian wholesale grocers' residences faced each other across the park and eight Italian

families (mostly in the building trades) lived dispersed to the north. First and second generation German and Irish immigrant building contractors and suppliers were another prominent presence. Inhabitants of the Catalina Avenue "curve" (fig. 3) with only one exception, fit this category and worked out of home offices.[17] Leo Linberger, whose contractor father Frederick had immigrated from Baden, Germany in 1889, lived on and practically shaped the streetscape of Madera Avenue's cottages through his virtuouso masonry work (fig. 4).

The neighbourhood was on the surface socially open enough by the 1930s to welcome anyone of the appropriate means or status. However, most deeds in the neighborhood carried a "race clause":

> *"...the grantees herein, their heirs or assigns, are firmly bound to the agreement that this lot or no part thereof shall ever be sold, leased, or occupied by a member of the negro race, except than as an occupant may permit a chauffeur or domestic servant to occupy a room or rooms in said residence building or garage, but only during the term of such service."*[18]

However, not every deed carried such specifications, possibly because of preferences of the original landholders when the lots were subdivided. The last inter-war house to be built facing the park on Tod Lane added to neighbourhood diversity, as the Colonial Revival at number 514 was for William R. Stewart, a notable African-American lawyer and state legislator.[19] African-American presence in Crandall Park was however contentious enough for Rabbi Philo's grandson to have been informed that "certain people" objected to him playing with the daughter of the African-American maid who served the family across the street.[20]

Fig. 4. Streetscape of Madera Avenue's fairy tale cottages, attributed to contractor Leo Linberger.

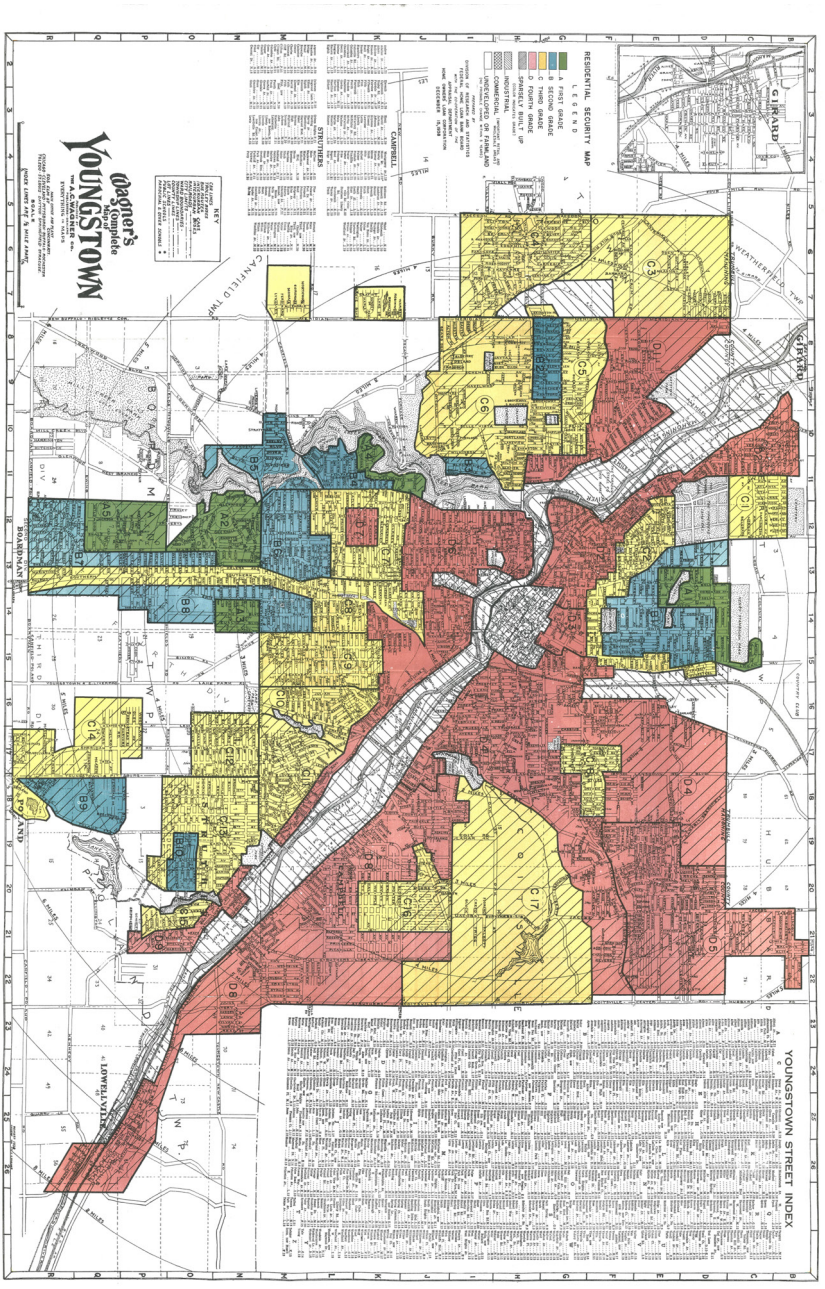

Fig. 5. Home Owners Loan Corporation (HOLC) Residential Security "Redlining" Map of Youngstown indicating the surveyor's assessment, green being best, blue still good, yellow undesirable, and red worst. Crandall Park is in the north central section of the map.

ASSESSMENT AT MID-CENTURY

In 1938, when the Home Owner's Loan Corporation, a Depression-era US government agency founded to stabilize housing prices, produced its report on and "redlining" map of Youngstown (fig. 5), Crandall Park was one of only two neighbourhoods inside the city limit to possess areas ranked in the best category (indicated in green).[21] This sort of report outlined which areas could readily receive homeowners' loans based on neighbourhood qualities but also alas the ethnicity and occupations of their inhabitants. The product was a prolonged institutionalized discrimination, particularly against African Americans, in obtaining means of home ownership.[22]

The perceptions of Crandall Park in the 1938 report were not entirely accurate, and often distorted historical truth. The lines between the first-ranked (green, dubbed by the surveyor "Logan Brook and 5th Avenue") and second ranked (blue, dubbed by the surveyor "Old Crandall Park") districts were arbitrary, dividing parts of the city that were part of a single development and blending historically separate areas. Substantial houses inhabited by established white collar families fell within the second ranked districts. The only apparent justification for the drawing of the lines between the two were proximity to racial integrated public schools.[23] Additionally, the surveyor overlooked the presence of the neighbourhood's one African-American homeowner and underestimated foreign-born families at only 5% in the "A" ranked zone and 10% in the "B" ranked zone, discussing only the offensively worded "infiltration of High Jewish population" in the former and the "infiltration of middle class Jewish people" and Italian immigrants in the latter.[24] These families had not "infiltrated" but were original homeowners who had helped build the neighbourhood. The Home Owner's Loan Corporation did state that plenty of lots left room for further building. Carlotta Avenue, for example, wasn't even built upon until the post-war period, and the last house to appear on the eastern side of Fifth Avenue arrived in 1969. Substantial later construction indicated continued desirability.

CONCLUSION: STABILITY IN AN ERA OF DECLINE

On September 19, 1977, known in Youngstown as "Black Monday," Youngstown Sheet & Tube abruptly shuttered its Campbell Works, putting thousands out of work. This was followed by the end of that decade by the departure of U.S. Steel, and by the mid-1980s there was just a vestige of heavy industry left in the city. This has precipitated Youngstown's long population decline. Current inhabitants hover at just over a third of the population of the mid-20th century.

As real estate prices declined and many families sought work elsewhere, the demographics of the Crandall Park neighbourhood changed. Because the racially restrictive deed covenants were struck down, African American families seeking more spacious and sturdy housing made purchases as soon as the mill closing out-migration began.[25] However, professional class white inhabitants still choose to remain in Crandall Park, reflecting a tradition of acceptance originating out of the neighbourhood's immigrant roots. The district's postal code now indicates an African American majority of about fifty-seven percent.

Since 2006, the city of Youngstown has sought to manage its decline strategically.[26] Rather than allow abandoned houses to attract urban blight and maintain infrastructure unsupported by revenue, the city in partnership with the Mahoning County Land Bank embarked on a vigorous program of demolition. The number of demolitions in a neighbourhood therefore serves as a good measure of its resilience. Only slightly more than 6% of Crandall Park's housing stock has been demolished in the period between 2016 and 2021.[27] This compares to nearly a third of housing stock demolished elsewhere in the city's North Heights district, where houses were of comparable size but laid out in regular grids. It also appears favourable compared to the other "good" district within city boundaries on the Home Owner's Loan Corporation map, which has lost over 20% of its stock to demolitions. Of the Pre-World War II neighbourhoods in the city, it also commands the highest median occupied home value, although some post-war neighbourhoods have higher-priced homes.[28]

To what then does Crandall Park owe its stability? Since its inception, the district has flourished because of its spatial and visual variety. Houses range from just over a thousand to over six thousand square feet. The lots they occupy can range from less than a fifth of an acre to over an entire acre. The heart of the neighbourhood is a park whose meandering edges provide vistas and scenic surprise. Where orthogonal streets were employed, long blocks and streets of limited run discouraged disruptive traffic to a degree. While deed stipulations broadly funnelled house size and configuration, individual homeowners were free to choose any configuration or style of residence. All of this lent the neighbourhood a distinctive character within the city. By catering to variety and diversity, Crandall Park ensured a level of attractiveness to generations of diverse homebuyers and maintains an exceptional place in an historic landscape of boom and bust.

ACKNOWLEDGEMENTS

Many thanks to the staff of the Mahoning Valley Historical Society for their invaluable help with this project, and to Patty Garner, Irving and Frank Lev, descendants of the Linberger family, Pierina Morelli, and Dr. Leah Wasburn-Moses and Dr. Philo Wasburn for their Youngtown memories. I regret this paper does not include more of what you shared. Thanks also to John Bralich, director of the YSU Center for Applied GIS.

DISCLOSURE STATEMENT

No potential conflict of interest was reported by the author.

NOTES ON CONTRIBUTOR(S)

Johnathan Farris is associate professor of art history at Youngstown State University. He is the author of Enclave to Urbanity: Canton, Foreigners, and Architecture from the Late 18th to the Early 20th Centuries (Hong Kong University Press, 2016). Dr. Farris's previous research chiefly focuses on exchanges between Asia and the West from the 17th through the early 20th centuries, but during the pandemic he has turned his attention to his own neighborhood in Ohio. He holds a B.A. from Yale, an M.A. from the University of Virginia, and a Ph.D. from Cornell University.

ENDNOTES

1. *Thirteenth Census of the United States*—1910, Population Vol. 3, Report for Ohio, p. 363, and Fifteenth Census of the United States—1930, Population, Vol. 1, Report for Ohio, Table 12, p. 478.
2. See Realty Guarantee and Trust Company, *Crandall Park* [promotional booklet] (self published, mid-1920s), Mahoning Valley Historical Society Archives.
3. *Youngstown Vindicator*, July 16, 1951.
4. These included along the Mahoning, Carnegie Steel Company's Ohio Works, Briar Hill Steel Company, and in nearby Girard, Ohio Leather, and along the Crab Creek tributary Republic Iron & Steel, Truscon Steel, The Republic Rubber Co., and General Fireproofing,
5. Joseph G. Butler, Jr., History of Youngstown and the Mahoning Valley, Ohio (Chicago and New York: American Historical Society, 1921), Vol. 1, 402.
6. Youngstown City Clerk's Office, Communication Sheets, No. 13929.This is a letter on Realty Trust letterhead from the Realty Trust Company signed by its Secretary, W. B. Hall, proposing the development scheme.
7. Ibid.
8. Ibid. and Youngstown City Clerk's Office, *Communication Sheets*, No. 13931. For more on Mill Creek Parks see John C. Melnick, *The Green Cathedral: History of Mill Creek Park*, Youngstown, Ohio (Youngstown: Youngstown Lithographing, 1976).
9. Youngstown City Clerk's Office, *Communication Sheets*, No. 13929.
10. Youngstown City Clerk's Office, *Ordinances,* No. 14082
11. Youngstown Vindicator, February 9, 1911. and Butler, *History of Youngstown and the Mahoning Valley*, Vol. 1, 238-241. This could well have been because of resources being pulled towards repairing damage from the catastrophic floods of March 1913.
12. In spring of 1914, the city council finally voted $50,000 bond for the Andrews Hollow bridge. *Youngstown Vindicator*, April 21, 1914.
13. Youngstown North Side Citizens Coalition Volunteers and Judith B. Williams, "Crandall Park—Fifth Avenue Historic District," National Register of Historical Places Registration Form, Section 8, 4.The WPA pavilion is conveniently signed and dated over its hearth.
14. "Executrix 's and Trustee's Deed from Henry K. Wick by Extrx etc. to James E. Roach et al." Mahoning County Deed Book 396, 416-418.
15. Notably Madera, Upland, Outlook, and Carlotta Avenues.
16. As part of his study of the neighborhood, the author compiled individual pre-World War II histories for each of the houses. These are based upon United States Census records for 1920, 1930, and 1940, Burch Directory Company's Youngstown Official City Directory (1910-1936 passim.), Joseph G. Butler, Jr., *History of Youngstown and the Mahoning Valley, Ohio,* and when possible oral history interviews.
17. This is indicated by listings and advertisements in the Burch Directory Company's Youngstown Official City Directory, most notably during the 1920s.
18. "Executrix 's and Trustee's Deed from Henry K. Wick by Extrx etc. to James E. Roach et al." Mahoning County Deed Book 396, 416-418.
19. United States Census for 1940. and "Atty. William R. Stewart, 93, Dies; Dean of City's Lawyers" in *Youngstown Vindicator,* April 5, 1958, 1-2. His presence held enough visability for the newspaper to flatter his rose garden in his obituary
20. Philo Washburn, interviewed by Johnathan Farris 6/11/2021.
21. Home Owners Loan Corporation (HOLC), Residential Security "Redlining" Map Area Descriptions, Youngstown area, Ohio (1938), and Area Descriptions for Youngstown area, Ohio, 1938. Home Owners' Loan Corporation, box 25, City Survey Files, Record Group 195: Records of the Federal Home Loan Bank Board, National Archives II, College Park, Maryland. See also Jennifer Rodriquez, "1938 Report Shows How Redlining Prevented Growth in Youngstown," WKBN News. Jan. 24, 2022. https://www.wkbn.com/news/local-news/1938-report-shows-how-redlining-prevented-growth-in-youngstown. The other of the "best neighborhoods" was the "Cohassett District," which featured substantial houses with scenic views of Mill Creek Park, on even larger lots than in Crandall Park, but limited by the previously implemented gridded southern expansion of the city. The largest blocks of neighbourhoods in the best category are further to the south, outside of city limits, and well beyond substantial impact from the heavy industries along the Mahoning River (as the report duly indicated, one of the few drawbacks of Crandall Park was that it was in the path of air pollution from the steel mills).
22. Ibid.
23. Area Descriptions for Youngstown area, Ohio, 1938. Home Owners' Loan Corporation, box 25, City Survey

Files, Record Group 195: Records of the Federal Home Loan Bank Board, page on "Old Crandall Park, B1."
24. Ibid., pages on "Logan Brook & Fifth Ave, A1" and "Old Crandall Park, B1."
25. This was accomplished by the U.S. Supreme Court case of Shelley v. Kraemer, 334 U.S. 1 (1948), and was reinforced by the Civil Rights Act of 1968
26. This topic has been amply covered in news media and some academic sources. See for example Christopher Swope, "Smart Decline" in Governing, November 2006, Vol. 20 Issue 2, p46- 52., Timothy Aeppel, "As Population Declines, Youngstown Thinks Small" in *Wall Street Journal*, May 3, 2007., and Brent D. Ryan and Shuqi Gao. 2019. "Plan Implementation Challenges in a Shrinking City: A Conformance Evaluation of Youngstown's (OH) Comprehensive Plan With a Subsequent Zoning Code." *Journal of the American Planning Association* 85 (4): 424–44. See also the Mahoning County Land Bank website, https://mahoninglandbank.com.
27. Data provided courtesy of city of Youngstown, Mahoning County Land Bank, Mahoning County Auditor, and YSU Center for Applied GIS (with special thanks to John Bralich). The demolitions have notably been mostly on the neighbourhood's borders and among the duplex rental properties on Cordova Avenue.
28. Ibid.

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Youngstown Vindicator.

IMAGE SOURCES

Fig. 1 Map drawn by Shann Larsson.
Fig. 2 William Gutknecht, *Atlas of Mahoning County, Ohio, and Hubbard, Liberty and Weathersfield Townships of Trumbull County.* Youngstown, OH: The Youngstown Arc Engraving Co. and The Vindicator Printing Co., 1915, plates 2 and 3 combined details.
Fig. 3 Photo by author, 2021.
Fig. 4 Photo by author, 2022.
Fig. 5 Home Owners Loan Corporation (HOLC), Residential Security "Redlining" Map Area Descriptions, Youngstown area, Ohio (1938) forYoungstown area, Ohio, 1938. Home Owners' Loan Corporation, box 25, City Survey Files, Record Group 195: Records of the Federal Home Loan Bank Board, National Archives II, College Park, Maryland. Digital image courtesy of The Ohio State University Libraries Map Collections. https://guides.osu.edu/maps/redlining

'Captains of industry' of the metropolitan nexus
Private mass housing development in twentieth-century Belgium

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Abstract

This paper focusses on the production of the two major commercial residential developers, Jean-Florian Collin (Etrimo) and François Amelinckx (Amelinckx N.V.), who constructed over 70,000 apartments in the metropolitan agglomerations of Belgium between 1924 and 1985. Their short-lived, but large-scale, production defines an 'invisible city' of which we know very little but which can be used to analyze key aspects of the process of 20th century metropolization in Belgium. By applying a production perspective on planning history, the actual projects that these developers realized are considered a combination of the 'space' that was given to them and the 'space' they claimed. This perpetual interplay between the actual conditions and the actor coalitions that included developers is defined as a 'metropolitan nexus', in which the process of metropolization is perpetually being redefined. The production of Etrimo and Amelinckx N.V. may seem generic at first, and does not conform to conventional narratives concerning the formal qualities of buildings. However, a strategic mapping of this production reveals how both developers were 'champions of a game of their creation,' as they applied precise strategies in constructing specific circumstances that seized the latent potential of development (that hovered over the capitalist metropolitan landscape) into concrete, often opportunistically defined, built commodities. This production perspective makes it possible to look at a processes of metropolitan expansion and twentieth century planning in Belgium from a different angle, starting from the actual built reality and the 'captains of industry' that this urban reality was grounded upon. A perspective which has been little-applied in the Belgian case, and is particularly pertinent for interpreting development patterns in a context like Belgium that lacks a strong planning culture and is historically compromised the absence of an emancipated scene of developers ready to take on the urban agenda.

Keywords

project development, twentieth century expansion, metropolization, Amelinckx, Etrimo

How to cite

Heindryckx, Laurence; "'Captains of industry' of the metropolitan nexus: Private mass housing development in twentieth-century Belgium". In Carola Hein (ed.), *International Planning History Society Proceedings*, 19th IPHS Conference, City-Space-Transformation, TU Delft, 5 - 6 July, 2022, TU Delft Open, 2022.

DOI: 10.7480/iphs.2022.1.6501

INTRODUCTION

Jean-Florian Collin (1904-1985) and François Amelinckx (1898-1975), founders of respectively Etrimo (*Société D'Etudes et de Réalisations Immobilières*) in 1935 and Amelinckx N.V. in 1936, were two major commercial residential developers who defined the market of apartment production in post-war Belgium. Taken together, they constructed over 70,000 apartments, accommodating over 200,000 people between 1924 and 1985, making them the Belgian champions of the upscaling of commodified housing in the mid-twentieth century metropolis. They were not only the first to construct the specific high-rise apartment building typology in Belgium, but also the first to occupy the metropolitan fringe of middle and large cities. Their production can be studied as the benchmark of a practice which would later become mainstream.

This research inscribes itself in an emerging body of scholarship that moves beyond the negative appreciation of commercial residential architecture as banal mass production or an erosion of early twentieth-century modernist ideals.[1] Combining political-economic agency with the processes of spatial planning, it challenges definitions of architecture as a liberal profession that continue to frame the study of architecture. The narrative I bring, highlights the specific choices embedded in a particular development model, analysing therefore the specific interpretation given to the metropolitan space for real estate development that Amelinckx and Etrimo were able to tap into on a large scale over a relatively short period of time.

Looking at the activities of these two major commercial residential players, their architectural and development models can be studied as a consequence of the 'space' that was given to them and the 'space' they claimed. I define this as the interplay between the actual conditions and the actor coalitions that included developers, calling it a metropolitan nexus in which the process of metropolization is constantly being redefined. Studying this interplay offers valuable insight in the specific 'embeddedness' of this production, both in time and space.

The specific choice for a high rise apartment production in the metropolis is the main reason to study these two developers. Although real estate is often seen as naturally linked to cities and urbanisation, its specific connection to metropolitan dynamics has been overlooked, with an exception of Alexia Yates, who convincingly argues 'from the mid-nineteenth century, modern cities have undertaken a marked evolution, from a time when real estate provided a stable backdrop for urbanity to one when the economic development of real estate became a core function of the metropolis, even a driver of the national and international economy.'[2]

Amelinckx and Etrimo can therefore be studied as an outcome of dynamics of metropolis formation on which they were dependent, and at the same time formed themselves. Metropolization was essential for their sales strategy (certainly for Etrimo's housing parks), as the need to be able to sell a lot of the same dwellings simultaneously could only work in the context of the metropolitan region, where they could tackle both the urban and the suburban clients at the same time, doubling the demand. Their expanding operations could thus only work in these agglomerations of Brussels, and on a smaller scale Antwerp, which was the key action radius of Amelinckx and Etrimo. Partly due to envisioning a 'city that never was', both perish during the 1970s-1980s, mirroring the declining of the desirability of the apartment typology in the metropolitan fringe.

Fig. 1. Apartment building of Etrimo in the southern border of Antwerp, ca. 1980.[3]

There are other reasons to specifically focus on Amelinckx and Etrimo besides their choice to develop apartment buildings for the metropolis.

Although they were not the only residential developers in Belgium, they were the first (starting early 1920s, after the law on Joint Ownership was installed in Belgium) and remained active the 1970s-1980s, when they went bankrupt due to similar changes in building conjuncture and economic crises. This makes them the biggest, but more importantly, the longest active housing developers in Belgium.

Collin and Amelinckx had a similar financial model when procuring the capital for their production. As they had little starting capital, they had to obtain and renegotiate funding for each individual project, which was the complete opposite of real estate agents with noble origins popping up around the same time.

Finally, they can be considered Belgian and European pioneers in the field of 'developers of private mass housing'. Jean-Florian Collin and Amelinckx were founding members and at times presidents of both the Belgian professional organization (*Union Professionnelle des Créateurs de Lotissements et de Logement*) and the European Professional organization of project development (*Union Européen des Constructeurs de Logements, secteur privé*) in the 1950s, organizations that still today protect the interests of project developers in Belgium and in Europe.

No coherent archives were preserved of Amelinckx N.V. and Etrimo. In the 'Archives of Modern Architecture' in Brussels, the documents concerning Jean-Florian Collin's activities remain limited to his interwar production in art-deco style, and Amelinckx is not even mentioned. I therefore choose to follow the 'paper trail' of the building activity of the developers.

Considering every (constructed or unconstructed) building as 'testimony' of their success, I aim to reconstruct the specific choices and enabling conditions that led to these 'successes'. This logic is supplemented with other traces of their entrepreneurship in advertisements, interviews with a few remaining former employees, and traces of their lobbying work (locally, nationally and internationally).

I use Immanual Wallerstein's *Historical capitalism: with Capitalist civilization* as a lens to understand how project developers tried to influence and control the different aspects of the chain of commodified housing in a changing context.[4] In particular, Wallerstein describes how individual entrepreneurs could 'find themselves pushing in one direction for their own enterprises (for example, by reducing their own labour costs), while simultaneously pushing (as members of a collective class) to increase the overall network of purchasers (which inevitably involved, for some producers at least, an increase in labour costs).' This contraction is particularly interesting to analyse the operations of Amelinckx and Etrimo in the context of processes of metropolization.

In order to analyse the relation of both developers to the city, I use Logan and Molotch definition of a specific type of 'place entrepreneur' called the 'structural speculator'.[5] Structural speculators 'intervene in the future': they speculate on their own ability to change the relationships of a given place to other places, that is, 'they attempt to determine the patterns through which others seek use value from place'. These entrepreneurs seek to alter the conditions that structure the market, strategizing to create differential rents by influencing the larger arena of decision making that will determine locational advantages. Their actions are therefore supralocal and cosmopolitan. Given the extraordinary impacts of government actions, structural speculators pursue both redistributive rents and monopoly rent, not merely serendipitous or differential rents. Being a structural speculator takes substantial skill, resources, and ongoing vigilance to sustain political decisions that preserve a given set of spatial relations.

AMELINCKX AND ETRIMO AND THE OPENING AND CLOSING OF METROPOLITAN DYNAMICS

If we consider Etrimo and Amelinckx champions of twentieth-century commodified housing, the question arises how they realized the latent potential in the newly opened metropolitan space. I argue they were 'successful at a game of their own creation', not only following a market, but also actively influencing and even creating (parts of) the market during a specific stretch of time in this specific metropolitan space.

Housing became a direct bearer of economic value in itself in the late 19th century, during which the Belgian government encouraged social housing at arms-length via indirect housing policies. Grosjean's *Urbanisation sans urbanisme* discusses this in-depth, in particular the laws regarding labourers' housing of 1889 and 1892, which allowed a state Savings Bank to offer low-interest loans to developers for the construction of workers' housing or for the purchase of buildings to be leased for the same purpose.[6]

Fig. 2. a Interwar production of Jean-Florian Collin (Etrimo), Brussels.

Fig. 2. b Interwar production of François Amelinckx, Brussels.[7]

For the purpose of this paper, I start from the Interwar period, and in particular the instalment of the 1924 "Law on Joint Ownership" in Belgium that introduced financial and legal modalities for co-ownership and stimulated the first owner-occupied apartment buildings. The Interwar period brought about an increase in the availability of excess capital in the bourgeoisie, which led to a rising housing need that could only be fulfilled by constructing apartment buildings, which were less expensive than bourgeois hotels de maître and attractive to the new entrepreneurial elite. A new generation of housing developers, among who Amelinckx and Etrimo, took up this brokering role by trying to eliminate the in-between solicitors and local landowners. They advertised to their future clients directly, often before obtaining a building

permit. Remark that the architect-developer divide became only clear-cut in Belgium with the law of the profession and the protection of the title of 'architect' in 1939. Until then, the practices of these 'brokers in urbanity' overlapped and depended on the profiling of the developer, who called themselves at times 'architect' (Collin) or 'developer-contractor' (Amelinckx).

Etrimo's and Amelinckx' operations truly took off from the 1950s onwards, echoing the post-war context of ever raising wages, a policy of full employment, and the broad availability of capital in the (lower) middle class. Although WWII left Belgium with no real housing shortage, the boom of available capital ensued a high demand of owner-occupied housing.

The majority of large scale housing estates in Belgium, remarkably, were not built by the public sector but rather by commercial players such as Etrimo and Amelinckx. Their production emerged thus outside the contours of the dominant political frames and was not aligned with the dominant anti-urban agenda that has been appointed to Belgian national housing policies. The unfolding Welfare State paired with the explosion of road transport and large population growth led to a specific demand for a new type of urban living in the metropolitan space, which Etrimo and Amelinckx were the first to specifically tackle. Although Etrimo focused more on constructing large apartment complexes in a green setting in the Brussels' agglomeration and Amelinckx diversified his activities in scale and land positions, both their operations moved towards large-scaled, repetitive high-rise apartment buildings during the post-war period.

Fig. 3. Apartment blocks of Amelinckx and Etrimo in the southern border of Antwerp, 1960s.[8]

The late 1960s' economic and societal shifts marked the end of the 'Glorious Thirty'[9] and eventually lead to the bankruptcy of Etrimo on the one hand and a severe shift of Amelinckx' activities on the other hand, the latter from the pure production of apartment buildings towards a commodification of services. The end of the appreciation of the metropolitan apartment typology combined with a building crisis in the early 1980s ultimately made Amelinckx file for bankruptcy in 1985, to which I will come back later.

COMMODIFICATION PROCESSES IN PRACTICE

Although together Amelinckx and Etrimo defined the market of private housing production in the post-war period, their different backgrounds led them to take up different positions in the field, live up to different ambitions, and cater to a somewhat different clientele. In the next part of the presentation, I would like to discuss the difference between Amelinckx' and Etrimo's commodification strategies. What are they explicitly selling? Where, and for which part, did they intervene in the total commodification chain of twentieth-century metropolitan housing?

LAND

- Etrimo was well-known for constructing 'apartments in a park' that offered a new type of metropolitan living in a green setting close to the city. Gery Leloutre has referred to these dense housing complexes set in systems of green spaces combining public and private parks as a 'Green Corona', a clear border to the Brussels agglomeration.[10] This development model thrived, but also needed, large plots of land just on the border of the Brussels metropolis, where Collin could address both the urban and suburban potential clientele.

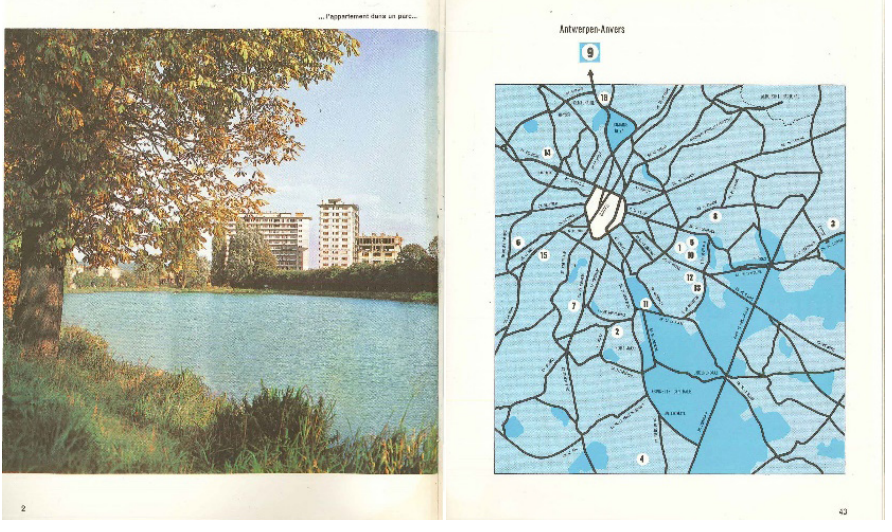

Fig. 4. 'Apartments in a Park' by Etrimo, Brussels, 1963.[11]

Fig. 5. An Amelinckx apartment block along the unfinished ring road of Antwerp, Borgerhout 1968.[12]

- Amelinckx appropriated sites that were already (partly) urbanized, or well on its way to become urbanized, capturing residual land values by explicitly choosing for easily accessible plots. The land Amelinckx constructed on was therefore highly diverse, both in the city centres (for instance by using the Slum Clearance law to get cheaper land), as well as on secondary radial roads in the twentieth-century belts of medium and large cities.

RETURN ON INVESTMENT IN LAND

- The Floor Area Ratio of Etrimo's housing parks was fixed as 1. This fixed occupation of the site made for an easy development model, that searched its added value in the development of the surrounding park. Collin usually obtained land that was difficult to develop, such as brownfields, swamps, or landfills. He projected his park strategy on these plots as a way to bring those into development at once, while simultaneously make these housing parks part of the context needed for development model itself.

- In contrast, Amelinckx' straightforward goal was increasing density as much as possible, spreading his land positions over a large variety of different, smaller projects, some on more expensive sites in both the inner city and in the more metropolitan fringe, which they sold for a higher price as being more 'luxurious'.[16]

RATIONALIZATION OF THEIR OPERATIONS

- When we look at the building plans, Etrimo constructed 13 almost identical housing parks, which can also be seen in the firms advertisements that depict little to no surroundings of these projects. The standardization of his design reduced his development costs and labour costs, as they employed mainly engineers and designers, and the construction was done by subcontractors.

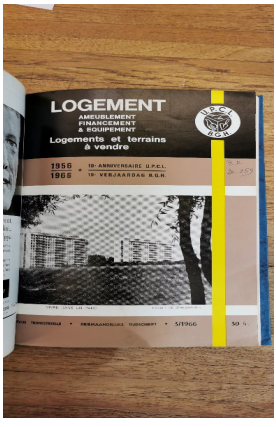

Fig. 6. 'Living in a Park setting', Etrimo's housing parks, 1966[13]
Fig. 7. 'Some people live close to their work, and you?' Advertisement of Amelinckx NV, early 1970s.[14]'
Fig. 8. The Apartment in a Park!' Advertisement of Etrimo, 1966.[15]

- As a son of a family which had a business in building materials, Amelinckx core business was focused on building. He invested as much as possible in keeping the construction activities within the company (or companies cluster), erecting subsidiary companies specialized in kitchen building, Aluminium windows and doors (Alumico) or elevators (Gelicom).

By 1970, the firm employed 2200 employees of which 200 white-collar employees, 1500 in-house construction workers, and 500 subcontractors. A large part of the subcontractors were consulting agencies, such as stability engineers, while the construction itself was done by blue-collar employees of Amelinckx NV. The firm made profit by buying most construction materials in large amounts, decreasing the material cost,[18] and a continuous optimization of its construction sites, reducing the 'temps mort' of his employees and streamlining the production of one apartment to 125 working days (thus lowering the labour costs).

SECTION OF THE COMMODIFICATION CHAIN

- Etrimo's searched for ways to influence the front end of the commodified housing process, leaving the actual construction of the housing parks to subcontractors. The most innovating of Collin's strategies is his ideal of 'making every Belgian a homeowner' by facilitating capital access for the lower middle class so every potential buyer could obtain a mortgage up to 100% of the total sum of the apartment. Etrimo unburdened his clients of subsidy applications as well. The main employees of the firm were thus white-collar, such as managers, engineers, architects, and administrative and sales employees.

- In comparison, the operations of Amelinckx resulted in a broader variety of housing products, from a basic to a luxurious finishing, from inner city to metropolitan slabs, although all of them with a premium access by car or public transport. Certainly as time passes, the diversification of Amelinckx' operations expands, including a marketization of more and more services such as management,

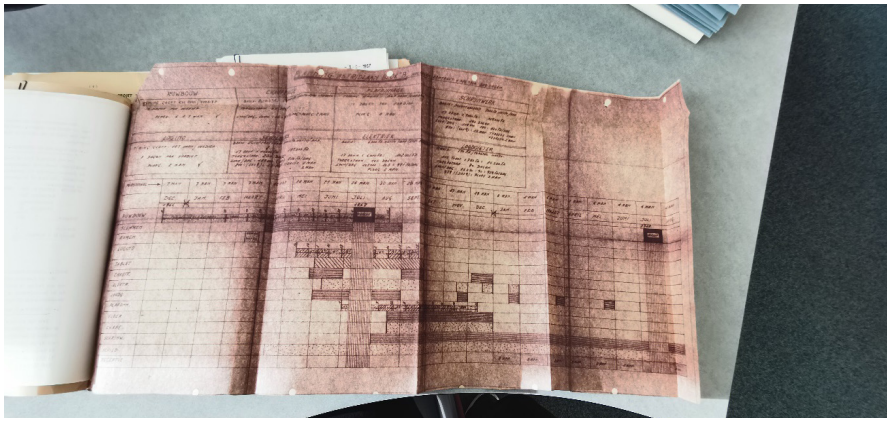

Fig. 9. Planning of the construction teams in one project, Antwerp, 1967.[17]

NEGOTIATIONS WITH THE GOVERNMENT

- Owner of Etrimo, Jean-Florian Collin was a co-opted senator, mayor of Faulx-les-Tombes in the province of Namur, and (co-)founder of both the national as European professional organization of private housing developers. He actively spoke out in public (such as his famous speech in the Parliament in 1969) against the legal exclusion of private developers to construct social housing, and for the need for a more inclusive housing policy for the lower middle class.

By contrast, his operations evolved more and more towards conceiving housing parks as isolated 'islands' with little to no connection nor negotiation with the local government administrations. This can be considered a reflection of Collin's frustration with the local and national governments in aligning with his ideological framework of high rise apartments in the metropolis, an ongoing argument in the previous decades.

- The operations of François Amelinckx, and his successor Renaat Blijweert, were more intertwined with an active and personal dialogue with heads of trade unions, majors, ministers of public works. They corresponded explicitly on creating the conditions needed for constructing cheap apartments for the lower middle class, such as tax shifts, juridical suggestions, or interesting places for future mass housing development.

THE END OF THE 'GLORIOUS THIRTY'

The heavy financial crisis of the early 1970s demonstrated the limits of the *laisser-faire* capitalism[19] of the decades before and launched a period of disruption, uncertainty and catastrophe in major parts of the world, ultimately leading to the end of the 'short 20th century'.[20] Within these shifts in economic regimes and institutional constellations, the cracks in the pillars of the Welfare state became visible, especially seen in the government's failure to provide hous-

ing for the lower (middle) classes. Additionally, 'right to the city' movements emerged over the globe, with local actions against the demolition of inner cities as part of modernization, slum clearance policies and functionalist planning.[21]

In Belgium, this period of 'hesitation and challenge'[22] brought about the end of the mass availability of private capital and a specific home-ownership regime. From the late 1960s onwards, the construction activity decreased by a combination of an increase in construction costs, wages, and interest rates on loans.[23] In 1970, this led to the abrupt bankruptcy of Etrimo. The firm had been specialising in developing apartments in a green surrounding, which required large programs, a long return-on-investment cycle, and a heavy capital investment in large plots of land in the secondary belt of Brussels.[24] As the demand for apartments lessened from 1967 onwards, Etrimo tried to slow down its production, but 'the train was too difficult to stop'.

When the main financial institution denied to offer Etrimo a credit line for liquid assets, it meant the end for the firm. The government also refused to purchase the land reserves of Etrimo, afraid to set precedence for the other construction companies by intervening in the private sector. However, they did renege this stance with other development firms several years later, one of them Amelinckx. The Belgian Minister of Housing explicitly identified other difficulties leading to Etrimo's bankruptcy at the time, such as the collusion between finance and politics (Collin was an out-spoken senator) and the 'Frenching' of the Flemish-speaking municipalities bordering the capital.[25]

We can relate this explicitly with Wallerstein's analysis of the importance of bankruptcies in selecting the dominant model of capitalism.[26] One the one hand, Etrimo and Amelinckx helped determine both the 'development model' and the 'rules of the game', and at the same time, they got stuck in them – Etrimo with no fall-back option, while Amelinckx' much more diversified business strategy and shorter return-on-investment cycle offered him the ability to pause parts of his activities and focus on specific spinoffs on the edge of the former activity, moving towards a further commodification of services.

The firm moved towards a further commodification of services, erecting various subsidiary companies in management, maintenance, repair services, insurance and loan services, and even investment companies that rented out apartments after buying them from the mother firm at a price well under the market price.

The declining desirability of the apartment typology in favour of suburban single-family housing combined with a building crisis in 1983, meant the end of the production of apartment buildings for Amelinckx. Its 'bankruptcy' in 1985 was however a well-expected result of Amelinckx' overproduction of apartments in relation to the demand, and its evolving strategies towards offering a further marketisation of services. Most subsidiary companies remained active after 1985, often under the direction of former directors and employees of Amelinckx.

Fig. 10. 'Communal maintenance', advertisement for Gerim, 1973.[27]

Fig. 11. 'Evolution in the Building Style', advertisement of Amelinckx, 1980.[28]

CONCLUSION

The production of Etrimo and Amelinckx set the benchmark for the mainstream project development in the 20th-century Belgium metropolis. I analysed a specific phase in the commodification processes, using it as a lens to reconstruct the specific meaning and embeddedness of these developers' commercial production. The production perspective attributes to a much-needed understanding of the evolution of twentieth-century commodified housing and processes of metropolization, as well as the agency of project developers in both.

This research is particularly pertinent for the Belgian context, which is known for a strongly developed owner-occupied housing market and a progressive denial of structural roles to large scale property developers throughout the twentieth century. As the Belgian society indirectly circumvented the creation of a more emancipated development scene ready to tackle the urban agenda, a reconfiguration of the collaborations between state and developers is crucial, especially now, when this production is rapidly 'becoming history' and we are facing the challenges of redeveloping the metropolitan area and this production.

ACKNOWLEDGEMENTS

I would like to thank professor Michiel Dehaene from Ghent University, for his feedback on the preliminary version of this paper.

DISCLOSURE STATEMENT

No potential conflict of interest was reported by the author.

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Destroy a Neighborhood

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Abstract

Planning history and urban forms have very different parameters in Turkey. Especially the areas with historical texture in the city centers have been exposed to many economic, political and socio-cultural effects during the development process of the city. In this study, the historical texture of Çanakkale Fevzipaşa District and how it has changed over time and the effect of the past on the future will be emphasized. Fevzipaşa Neighborhood, is the first residential area of the city. Communities from different cultures and religions have been settled in this neighborhood and the effects of this versatility have also shown its effects in the urban form. They have integrated their work and lifestyle into the place where they live. The predominantly Roman neighborhood has become one of the poorest settlements in the city. Although the neighborhood is located in the city center, it is almost isolated from the city. The reasons why they are so isolated from the city are that they remain as a minority in the society and their jobs are no longer valid. This depression was also reflected in the living areas, creating a ruined appearance in the city center. Central and local government and also municipality have not found a solution to this problem. On the other hand, the construction companies have begun to reconstract the buildings in the area. This is how the process of gentrification in the neighborhood began. The inhabitants who could not afford to pay the new price of the houses had to move from the neighbourhood. New type of housing has been built in the area does not reflect nor the historical architecture legacy nor the culture and lifestyles. The real estate value of the houses has increased. Also new types of monetization methods such as airbnb started to be preferred in the neighborhood. Most of the homeowners began to rent their houses via airbnb. Tenants prefer to rent the houses in the neighbourhood due to its location and homeowners make much more mone in a shortcome. How this situation will affect the urban form, how it will create changes in the city center and changes in the value of real estate are the subjects that will be discussed in the study. Physical and social structure of the neighborhood changes rapidly. Newcomers have different agenda about the neighbourhood. They do not want to live in the neighbourhood; they want to earn money from the neighbourhood. Therefore, the reconstruction in the area causes destruction in the phisical and social appearence of the neighbourhood.

Keywords

Planning history, urban form, city center

How to cite

Unsal, Burcu; Sakarya, Ipek; “Destroy a Neighborhood”. In Carola Hein (ed.), *International Planning History Society Proceedings*, 19th IPHS Conference, City-Space-Transformation, TU Delft, 5 - 6 July, 2022, TU Delft Open, 2022.

Intensification, Development Regulation, and Land Value Capture
Conflict over the rules of the game in Toronto

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Abstract

This paper examines the emergence and operation of the Toronto planning regime, focusing on approaches to development regulation, land value capture, and infrastructure finance, through a case study tracing the evolution of land development control and planning policies of Toronto, Ontario since the early 20th century. Toronto has long been one of the fastest growing city-regions in North America, and over the last two decades in particular has seen a boom of high-rise development (Filion, Leanage et al. 2020). The Toronto case is valuable, as a distinctive value-capture system has emerged, conflict over both the rules of the game and their application is intense and continuous, and detailed documentation of regulatory processes and outcomes is available. The sets of institutions regulating capital investment in urban property are increasingly important today, as urban property development has become one of the world's largest industries, most cities struggle to finance infrastructure demands related to intensification, and cities are key actors in attempts to achieve more sustainable development and better living environments. Debates and policies designed to capture a share of increases in urban property value for public benefits are longstanding, but have become more pressing in recent years as demands for and costs of necessary infrastructure grow and other sources of revenue have shrunk (Ingram and Hong 2012, Kim 2020). Development control and value captures policies have been vigorously contested in Toronto. Conflict occurs in two main arenas: in the provincial legislature, where planning laws and policies have been repeatedly revised to modify value-capture mechanisms; and at the micro scale of each development where zoning, permitted height and density, infrastructure assessments, and permission fees are negotiated and contested, often through appeals to the Ontario Municipal Board (OMB), a quasi-judicial appeal body. These conflicts are revealing of the operation of the rules of the game regulating development, of key actors' positions, and of processes and mechanisms of institutional change. This paper traces processes of institutional change over the last century, quantifies the scale of contemporary value capture in Toronto, and details the nature of public benefits that have been realized, showing that in practice, while most municipal operating and maintenance costs are paid for with annual property taxes and user fees, capital costs are mostly paid for with levies on new development following the principle that 'growth pays for growth' (Biggar and Siemiatycki 2020, Found 2019). While Toronto has

seen some success in achieving planning goals and land value capture, it is clear that the city has become increasingly reliant on exactions for density bonuses, development charges, and park land dedications as sources of infrastructure finance, and big questions remain about the legitimacy and effectiveness of current approaches, particularly as housing has become increasingly unaffordable.

Keywords

Land value capture, intensification, development regulation, institutional change, property

How to cite

Sorensen, Andre, "Intensification, Development Regulation, and Land Value Capture: Conflict over the rules of the game in Toronto". In Carola Hein (ed.), *International Planning History Society Proceedings*, 19th IPHS Conference, City-Space-Transformation, TU Delft, 5 - 6 July, 2022, TU Delft Open, 2022.

5 JULY: SESSION 4.3

URBAN REGENERATION.

Chair: John Hanna

Evaluating the Impact of the Community Planning Association of Canada in the Post-War Revival of Canadian Planning

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Abstract

The Community Planning Association of Canada (CPAC) played a key role in advocating for the re-establishment of planning in Canada. The CPAC was remarkably effective, with broad popular support with thousands of citizen members in the late 1950s. The CPAC educated the public about the purpose of community planning and encouraged public participation at local and regional scales across Canada from 1946 until the Association collapsed in 1979. We believe that 1944 to 1947 period was a critical juncture establishing planned suburban development in Canada as a path-dependent process with tremendous momentum into the 21st century. During this period, the federal government set post-war reconstruction objectives, and both Central (now Canada) Mortgage and Housing Corporation (CMHC) and the CPAC were formed. It is still yet to be determined whether the formation of the CMHC or CPAC was the critical juncture. Using a historical-institutional approach, the role of CMHC and the influence of the CPAC is examined. An analysis of key events, actors, and themes, relying on extensive archival material from 1944-64, demonstrates that the CPAC gave tremendous push along the path dependent process of suburbanization in post-war Canada.

Keywords

community planning, suburbs, post-war reconstruction, Canada

How to cite

Gordon, David L. A.; Virginillo, Miranda; "Evaluating the Impact of the Community Planning Association of Canada in the Post-War Revival of Canadian Planning". In Carola Hein (ed.), *International Planning History Society Proceedings*, 19th IPHS Conference, City-Space-Transformation, TU Delft, 5 - 6 July, 2022, TU Delft Open, 2022.

DOI: 10.7480/iphs.2022.1.6501

INTRODUCTION

It is widely acknowledged that Canada is now a "suburban nation", but how did it make the transition from urban to suburban so quickly after World War II?

Canadian planning and housing construction had essentially collapsed in the years leading up to the end of WWII. The Report of the Subcommittee for Housing and Community Planning [1] from the federal government's Advisory Committee on Reconstruction indicated that there was strong need for planning along with the construction of new homes. Named after the chair of the Committee – Professor Clifford Curtis – the Curtis Report recommended numerous actions that could be taken to ameliorate the problem, including the formation of a federal agency to respond to these urgent needs. This agency was formed in 1945 as the Central (now Canada) Mortgage and Housing Corporation (CMHC) and continues to exist today. CMHC followed through with another of the Curtis Report's recommendations and formed the Community Planning Association of Canada (CPAC) in 1946 to foster public understanding, and participation in, community planning[2]. The CPAC produced numerous publications and media that were distributed across Canada to interested members of the public, municipal and provincial officials, architects, engineers, the few practicing planners in Canada at the time, and others. The CPAC held conferences throughout Canada to discuss the benefits of "good" suburban community planning (among other topics). The CPAC operated at national, regional, and local scales across Canada from 1946 until the Association's eventual collapse in 1978. However, very little research has been conducted on the CPAC's actions, actors and interests in the immediate post-war period[3].

THEORETICAL FRAMEWORK

The primary theoretical framework of the research program is historical institutionalism with the federal government instigating a path-dependent process regarding the suburbanization of Canada. Filion describes 'dispersed suburbanism', as a system of development that was "shaped by massive government highway and single-family homeownership programmes," and that the associated lifestyle and values that come with this form of suburbanization "reverberate at a society-wide scale and as such constitute an impediment to societal transformation"[4]. These statements, along with those made by Harris, support the hypothesis that the federal government aligned itself with corporate developers in the post-war period, during a time when it had access to greater autonomy and resources with regards to industrial and residential development, in order to create an economy centred around suburban living and its associated consumerism[5].

In their article on path-dependence and suburbanization in Halifax, Grant, Filion, and Low state that "during the post-war period, federal mortgage insurance and housing and planning guidelines designed to stimulate home-ownership and prosperity influenced building standards and suburban designs, with lingering repercussions on form"[6]. The relationship between the government and large developers, as well as the federal and provincial govern-

ments use of zoning bylaws, distribution of funding, and multiple amendments to the National Housing Act, all point to its interest in using the housing industry to bolster the post-war economy and create a new source of financial stability for the country and its citizens. By arguing that the government established a path-dependent process from a point of critical juncture, our research analyzes the decisions of the Canadian federal government and its usage of tools such as community planning institutions, a nationalized mortgage industry, educational institutions, and other checks, balances and incentives to harness the power of the post-war era and set the country on the trajectory it continues on today in becoming a suburban nation[7].

The institutional analysis of the activities of CMHC and the CPAC is based on current theories of path-dependency[8]. This historical-institutionalist research approach helps untangle shared understandings about community planning, good suburban development practices and the standard operating methods and procedures followed by the actors in the Canadian (sub)urban development processes[9].

Historical-institutionalism (HI) is a research method that puts institutions at the centre of social and political analysis; an approach that is particularly appropriate given CMHC's pivotal position in this project[10]. A central insight from the HI approach is that new institutions are often created during periods of crisis, such as the establishment of CMHC as an instrument to assist with the reconstruction of the Canadian economy at the close of the Second World War.

In HI terms, periods of major institutional change are identified as "critical junctures"[11], when existing structures are not solving patterns such as a housing crisis, and change is less constrained than in the periods of path-dependence that precede and follow them[12]. We are considering whether the 1945-55 decade was a critical juncture in Canadian urbanism, when some early decisions (mandatory community planning; facilitating mortgages but avoiding mortgage interest deductibility) may have set Canada on a suburban path substantially different than the USA or UK.

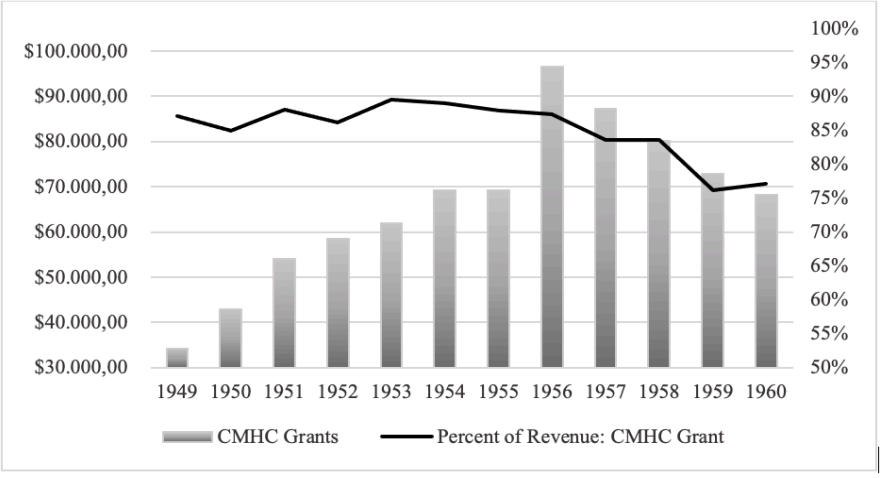

Fig. 1. Graph comparing the value in CAD of CMHC grants (left y-axis) and the percent of revenue the CMHC grant accounted for (right y-axis).

In Sorenson's article, "Planning History and Theory: Institutions, Comparison, and Temporal Processes", he discusses classifying cities as "collections of institutionalized property (including public property), produced in particular circumstances and through specific sets of rules"[13]. Within the context of the historical institutionalist framework as it pertains to planning history, this means that in order to determine whether historical institutionalism and its components - critical juncture and path-dependency - are present, a number of elements must be demonstrated[14]:

- The intentional usage of a particular moment in history as a critical juncture
- A positive feedback effects loop, created by an institution (or institutions), to instigate a specific, long-standing pattern of development
- Creating a system which prioritizes certain actors/opportunities and their resultant effects on the overall structure being created
- Co-evolutionary processes of development between the instigating actors and their partners in maintaining the chosen system

In order to demonstrate that this is what occurred in the suburbanization of Canada, we are looking for evidence in the primary source materials that solidifies the present hypothesis that the strategic partnership between the government, corporate developers and large-scale builders, with the intent of boosting Canadian consumerism and, subsequently, its economy in the post-war years intentionally created sets of enduring institutions that have had continuing impacts upon the processes and patterns of suburbanization in Canada.

The Historical-Institutional method does not expect that institutions are locked into a particular cause of action, but rather that early choice at critical junctures tend to create different evolutionary trajectories of institutional development[15]. Sorensen[16] concludes:

> *" ... The implication for suburban planning histories is that research should focus on the critical junctures when planning regulations for suburban land development were first established, as these shape later trajectories of planning law and suburban development ...."*

Historical Institutionalism is the framework recommended by Sorenson for suburban land development research, and as a result, is the framework selected for this project[17]. This project examines how CMHC and CPAC reinforced these trajectories in the post-war era by publishing planning handbooks, establishing national standards, seeding a network of planning schools, importing planners, and designing and developing lands owned by the federal government[18].

NEXT STEPS

The primary methods employed in this research program involve analysis of textual materials from various governmental archives. Correspondence, planning and policy documents, photographs, maps, and other materials related to the development of Canada's suburban agenda in the post-war period are examined. The relationship between individuals residing in urban and suburban spheres, and the actors responsible for developing said spheres, including

large-scale developers, government entities, and planners are assessed through these primary source materials. In addition, the effects that this process had on the continuing development of Canadian housing and communities is considered.

Similarly, analysis of the documents in their archival setting engages with the question of whether community members were true participants in the consultation process undertaken under the auspices of the CMHC's community planning initiative, which occurred within the scope of its suburbanization mandate, or whether the feedback sought by the government via subsidiary organizations such as the CPAC was merely meant as a tokenistic gesture.

Initially, the research examined resources in the Canadian Centre for Architecture (CCA), the Canadian Housing Information Centre (now the Housing Knowledge Centre) and archives at McGill and Harvard. The Clifford Curtis fond at the Queen's University Archives allowed us to explore government decision making in the post-war period regarding owner-occupied housing and the use of crown corporations and mortgage incentives to solidify Canada's status as a suburban nation. A section of these fonds contains information on housing, economics, and planning, all of which played a part in the work of the Advisory Committee, which subsequently informed the government's creation of the CMHC. The analysis of the immediate post-war period as a critical juncture leading Canada to become a suburban nation is informed by correspondence from the years during which Curtis chaired the Advisory Committee, and government reports and papers written on the topics of housing and community planning.

The Humphrey Carver fonds at the CCA provided guidance[19] into the third phase of the project: examining the fonds of the CPAC and CMHC at Library and Archives Canada (LAC)[20]. The CPAC fonds were examined during Summer 2021; the CMHC fonds, consisting of 131 metres of textual records between 1935 to 1989, will be examined during Summer 2022[21].

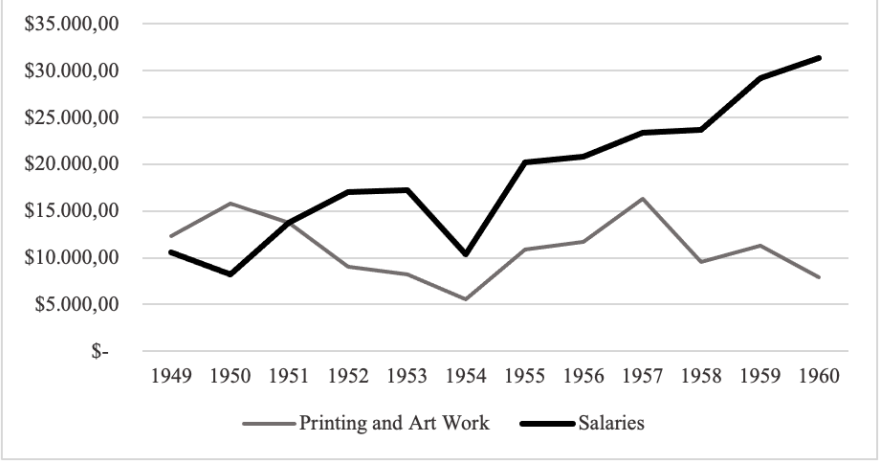

Fig. 2. Graph comparing the CPAC's spending in CAD on Printing and Art Work and Salaries.

The combination of the CMHC and CPAC holdings at Library and Archives Canada include information on the formation of the CPAC, its day-to-day operations and, specifically, CMHC's role in the creation of the CPAC in order to encourage local jurisdictions to adopt suburban development in planned communities[22].

RESULTS

Examination of the CPAC's financial statements and grant applications submitted to CMHC between 1946 and 1960 reveals that CMHC's funding was crucial for the CPAC to be able to promote community planning across Canada; membership fees and other grants were not enough to support their activities[23]. The vast majority of the CPAC's revenue came from CMHC grants which the CPAC applied for and was awarded annually until the 1970s; in the post-war period, between 76% and 90% of the CPAC's revenue was provided by CMHC (Figure 1). The CPAC's two greatest expenses were for publications (Printing and Art Work) and for employees (Salaries) (Figure 2). The CPAC employed several full-time staff members in the national office in Ottawa and had employed full-time regional secretaries in British Columbia, Ontario, and the Maritime provinces to coordinate the CPAC's activities. Both the publications and the staff were integral to the CPAC's ability to promote community planning across Canada in the post-war period.

Fig. 3. The front cover of Community Planning is Common Sense! published by the Community Planning Association of Canada in 1948.
Fig. 4. The front cover of Urbanisme et Citoyens by Jean Cimon, published by l'Association Canadienne d'Urbanisme (the Community Planning Association of Canada) in 1948.

Analysis of the actions, actors and interests of the CPAC reveals that the CPAC had three main focus areas in the immediate post-war period: education on subdivision and community design principles, adequate supply of qualified planning professionals, and provision of better planning education and enabling legislation across Canada[24]. The strongest tools used by the CPAC to promote these three areas of interest were their regular periodicals[25] and special publications[26].

PUBLICATIONS

The CPAC was established as the national clearing house for community planning, intended to educate the public and professionals about the purpose and benefits that community planning could afford to Canadian municipalities (Figure 3)[27]. The dearth of planning in Canada up to the end of the Second World War necessitated the creation of materials to educate both the public and professionals about what were considered good and bad planning practices. The CPAC in its early years frequently discussed plans of subdivision and their design, Clarence Perry's Neighbourhood Unit, and the Nuclear City in their regular publications (Layout for Living and the CPAC Newsletter), in special publications (pamphlets and brochures), and in their conferences (Figure 4). The CPAC's promotion of "good" subdivision design, the Neighbourhood Unit, the Nuclear City and New Towns has promoted suburban sprawl in Canada. Though their publications encouraged other forms of residential development, overwhelmingly, the topics encourage dispersed suburban growth in single-family homes. Part of this encouragement of dispersed suburban growth was directed by the early goals of the CPAC and CMHC which came from the Curtis Report: the need to build one million new homes in the next decade, for instance. Section 35 of the National Housing Act (NHA) enabled CMHC to provide funding for municipal servicing of lots and the construction of roadways on land for residential subdivisions, referred to as Land Assembly. This program was strongly promoted and closely followed by the CPAC. However, from the beginning, the CPAC cautioned against focusing on the number of new homes as the Curtis Report does - Humphrey Carver's article Planning for Half a Million Houses published in Layout for Living argues that the quality of the homes and their surrounding neighbourhoods is more important than the quantity of new units.[28]

As with "good" subdivision design, the CPAC, and by association CMHC, influenced the types of planning practices that proliferated in Canada from the 1940s to the 1960s. Since its formation in 1946, the CPAC and CMHC have been joined at the hip. Initially, the CPAC was run from an office within CMHC's headquarters in Ottawa using CMHC staff. Since the provisional council of the CPAC was formed in 1946, the National Council has included a CMHC Representative on its roster – the longest serving representative was Humphrey Carver, from 1948 to 1957. It is particularly important to acknowledge the connection between the CMHC and the CPAC regarding the topics published by the CPAC in its early years. From 1946 to 1950, the CPAC was governed nationally through an administrative office located at CMHC's headquarters in Ottawa. The Secretary-Treasurer managed the administration and day-to-day activities of the CPAC, assisted by staff loaned to the CPAC from CMHC and served as the Editor of the CPAC's national periodicals. The editorial team of the CPAC largely consisted of CMHC employees and made decisions about what planning types should be encouraged or discouraged

in the CPAC's publications[29]. By 1964, although the CPAC had many publications, "much of its content is [sic] both repetitive and sketchy" having frequently referenced the importance of community planning and effective subdivision design[30].

Susan Briggs, for her 1964 thesis, The Community Planning Association of Canada: A Pressure Group conducted an astounding 19 interviews[31] in four months with current and former executives and national office staff of the CPAC. A detailed account of the history of the CPAC up to 1964 and an assessment of how the CPAC operates as a pressure group [32] was produced as a result. Briggs' description of the form of the CPAC includes a discussion of the relationship between the CPAC and CMHC: in particular, any negative repercussions effected by the CPAC on CMHC were to be avoided. In fact, any advertisement of the connection between CMHC and the CPAC was discouraged from the 1950s onwards: the CPAC no longer published details on funding sources, referred to the CMHC Representative as an Executive Councillor, and found other sources to supplement CMHC's annual grant. To Briggs, these three factors meant that the CPAC could "think and act more autonomously," however the CPAC was still dependent[33] on CMHC for the budget to support their conferences and publications. Further, even though the persons interviewed by Briggs found that the CMHC Councillors "did not throw their weight about", those interviewed unanimously agreed that CMHC Councillors such as Humphrey Carver, were "often the most 'able', 'knowledgeable', 'well informed' and 'most effective' men on Council"[34].

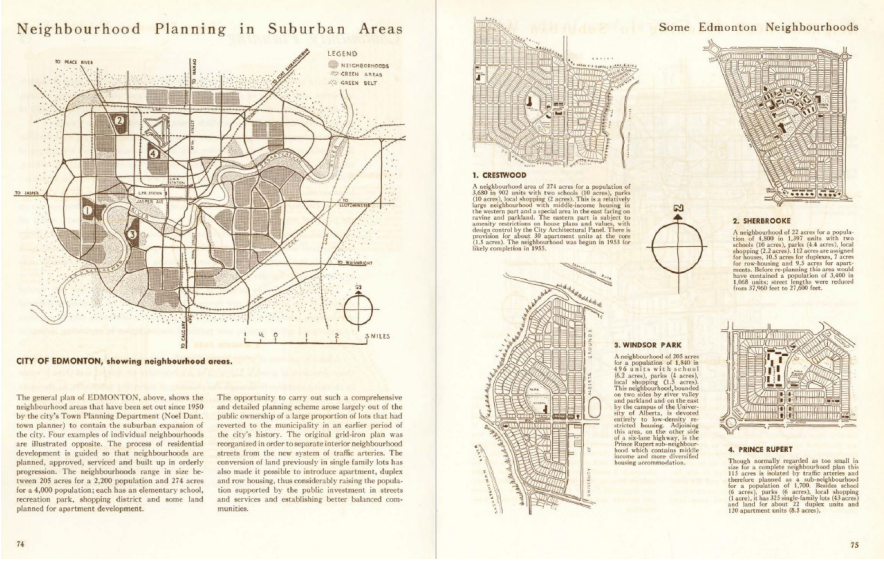

Fig. 5. Housing Design Supplement Part II, Chapter 8 Community Planning, excerpt on Neighbourhood Planning in Suburban Areas with focus on Edmonton. The Housing Design Supplement was produced by CMHC and distributed in two parts through the Community Planning Association of Canada and the Journal of the Royal Architectural Institute of Canada in 1952 and 1953.

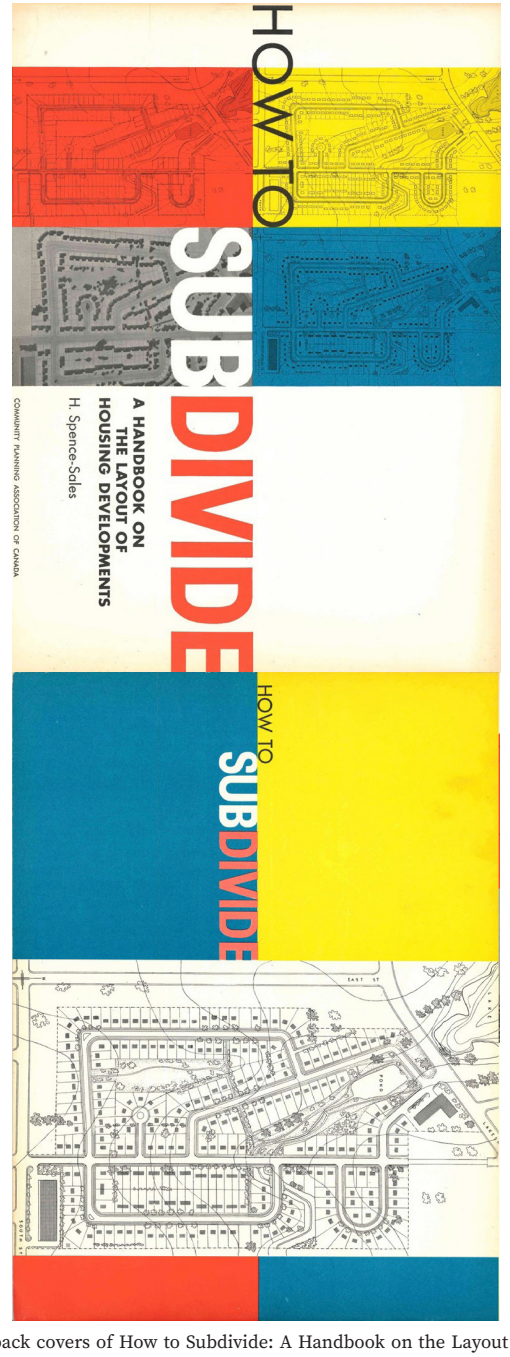

Fig. 6. Front and back covers of How to Subdivide: A Handbook on the Layout of Housing Developments by Harold Spence-Sales, published in 1950 by the Community Planning Association of Canada.

PLANNING EDUCATION

Through the Curtis Report, the need for and importance of effective planning was emphasized and became a part of the CPAC's mandate. Throughout the 1950s, the CPAC was leading discussions on ways to educate planning practitioners at Canadian universities using Canadian examples, following CPAC's publication of How to Subdivide and its success. In the CPAC's quest to encourage community planning across Canada, it lobbied the federal government for funding for university programs to educate professional planners. In 1952, CMHC scholarships were announced through the CPAC and advertised annually thereafter in the CPAC Newsletter and Community Planning News:

It has been the privilege of the Association to help announce the terms of assisted study at the four schools of planning [University of Toronto, Manitoba, British Columbia, McGill University], to confer with those in charge of the courses upon the work they are doing, and to be associated with the publication and display of some of their studies and achievements[35].

The number of planning professionals in Canada prior to the Second World War (4) and the number of graduates from planning schools in 1954 (43) are of great interest.[36] Carver's article published in Community Planning Review estimates that in 1954, only 43 students had graduated from Canadian university courses on planning. Of those 43, 39 received funding from CMHC's scholarships, and of those 39, only 6 had abandoned community planning in Canada. These initial figures show that, from 1947 to 1954, approximately 5 professional planners were produced in Canada per year. Within 10 years of the publication of the Curtis Report, which stressed the great need for and importance of community planning by qualified professionals, Canadian universities were producing annually the number of professional planners practicing in Canada before the war.

In 1955, CMHC invited 12 planners from the UK to work across Canada, specifically to assist in preparing planning documents in major metropolitan areas. The availability of the planners for hire was advertised in Community Planning News[37]. These planners were also encouraged to teach planning courses at Canadian universities, as there was limited success at finding them employment initially[38].

BETTER ENABLING LEGISLATION

Prior to 1944, community planning in Canada was rare, and where plans and planning professionals existed, these plans were advisory in nature[39]. The Curtis Report describes that, while "most provinces have passed statutes, and town planning powers of a kind have been available to local authorities," the existing legislation is too general, "represent a form of negative control," and would be insufficient even with substantial changes[40]. Further, by 1944, "town planning legislation in Canada had [sic] not been successful; and for the most part it was [sic] inoperative"[41]. At a national level, the Curtis Report recommended that a federal agency dedicated and "equipped effectively" should be able to "encourage and assist the provinces in

passing the necessary enabling legislation for municipal and regional planning"[42]. CMHC as a federal government agency was tasked with creating and funding the CPAC, which followed through on many of these ideas presented by the Curtis Report.

As previously discussed, Harold Spence-Sales' How To Subdivide can be seen as the study of minimum planning standards (at least for residential areas) that the Curtis Report recommended be produced by the CPAC. The other recommended report, a study on model planning legislation, was produced (albeit with a slightly different scope) by Spence-Sales for CMHC in 1949 with assistance from Norah McMurray[43]. In this report, Spence-Sales investigates the number of town planning agencies and plans in existence in 1949; planning activity is found to be limited to the major urban centres for each province.

The topic of active planning legislation and planning administration across the provinces in Canada was then revisited by Norah McMurray in 1952 and published by the CPAC for a wider audience as Outlines of Canadian Planning Law[44]. McMurray describes for each province the active planning legislation and the duties of the planning administration for each province except Quebec and Newfoundland. At the same time McMurray's study was published, the CPAC National Office and the Provincial Divisions were active in producing and submitting briefs arguing for better planning and better enabling legislation. A comparison of J. B. Milner's Community Planning: A Casebook on Law and Administration in 1963 to Norah McMurray's report in 1952 reveals changes to planning legislation occurred in several Canadian provinces in 1955 and 1960. In Ontario and British Columbia, the CPAC's lobbying encouraged site plan and subdivision controls, and discouraged ribbon development, respectively. In both cases, the CPAC's lobbying created greater public support for establishing municipal planning commissions and hiring qualified planning professionals across Canada.

CONCLUSION

By 1960, the CPAC had accomplished its goals of public education on the topic of community planning through its widespread publications as well as the advocacy efforts of its more than 4000 members through divisions in each province and branches in most major cities. The CPAC had sponsored no less than 15 national conferences and countless more at the regional and local scale; representatives of the CPAC spoke to municipal and provincial officials, planners, architects, engineers, and advocacy groups about the importance of community planning. Members of the CPAC taught community planning at four universities and organized at least five extension courses to educate working professionals about the intricacies of community planning law, practice, and administration among other topics. From its national office, the CPAC had published 4 periodicals, 3 monographs, 11 special pamphlets, and even more conference proceedings, mimeographs, brochures, and reports. The public had been educated on the benefits of community planning, which was firmly supported by municipal planning bodies and provincial planning legislation in most of Canada by 1963[45]. Now that the public had been convinced of the benefits of community planning, what was left for the CPAC to accomplish?

For the remainder of its life, the CPAC would frequently re-evaluate its purpose: in 1954, in 1967, and throughout the 1970s in order to ensure continued funding from CMHC. The CPAC attempted to re-focus as a community advocacy group through the 1970s, but CMHC revoked all funding under this objective, which led to the CPAC's collapse in 1978[46]. Despite its unfortunate conclusion, the CPAC's early activities, actors and interests strongly influenced the development of planning in post-war Canada, shaping the conditions for lasting impacts on the Canadian landscape.

This research has revealed that the CPAC influenced nearly every aspect of the post-war planning supply chain in Canada: it generated demand for planning and for qualified professionals, and supplied educational materials to the public, students, and professionals, and financed training and research in planning. The CPAC, while effective and influential in the development of Canadian planning in the immediate post-war period, was not the central institution responsible for the path dependent suburbanization of Canada. The CPAC's primary funding body - CMHC - requires further examination as the possible central institution responsible for the path dependent suburbanization of Canada. CMHC played a major role in shaping Canadian suburbs in the post-war period by creating new suburban design standards and reviving community planning through its influence over the CPAC. CMHC facilitated a major change in Canadian urban structure, even though urban planning and development are within provincial and municipal jurisdictions. CMHC used a multi-pronged approach to promote the federal policy agenda, including advocacy, education, research, national standards, capacity-building, and demonstration projects across Canada.

QUESTION FOR DISCUSSION

Are we using Historical Institutionalist analysis correctly to investigate whether the end of the Second World War is a critical juncture, the institution responsible is CMHC (not CPAC), and the path-dependent outcome – the suburbanization of Canada?

ACKNOWLEDGEMENTS

The research was partially funded by the Social Sciences and Humanities Research Council of Canada Insight Grant 435-2018-0378 awarded to David Gordon, and by the Social Sciences and Humanities Research Council of Canada Graduate Scholarship and the Queen's University Sue Hendler Graduate Fellowship awarded to Miranda Virginillo. We thank Professor Andre Sorensen for incisive comments on an earlier version of this paper.

DISCLOSURE STATEMENT

Portions of this paper were drawn from a paper by Gordon and Boika at the 2020 ACSP conference and from the Master's report on the topic of the CPAC written by Miranda Virginillo. David Gordon received a CMHC Scholarship in 1982 and a CMHC Doctoral Fellowship in 1991. CMHC has not funded or directed this research project in any manner.

NOTES ON CONTRIBUTOR(S)

David Gordon FCIP RPP AICP is Professor in the School of Urban and Regional Planning of the Department of Geography and Planning at Queen's University in Canada. He was SURP Director for over a decade and also taught at McGill, Ryerson, Toronto, Riga, Western Australia, Harvard and Pennsylvania, where he was a Fulbright Scholar. David holds a doctorate from the Harvard GSD and other awards and honours. Recent books include *Town and Crown: An illustrated history of Canada's capital* and *Planning Canadian Communities* (with Pam Shaw). His latest research addresses planning history and compares Canadian and American suburbs.

Miranda Virginillo is a graduate student in the School of Urban and Regional Planning of the Department of Geography and Planning at Queen's University. She has an undergraduate degree in the History and Theory of Architecture with a minor in Urban Studies from Carleton University (BA '20). Miranda is a project assistant to David Gordon's research on "How Canada Became a Suburban Nation." Her current research on the early formation, membership and activities of the Community Planning Association of Canada is a SSHRC CGS-M funded project and was awarded the Sue Hendler Graduate Fellowship for distinguished planning research.

ENDNOTES

1. C. A. Curtis. "Housing and Community Planning." *Final Reports of the Subcommittee on Housing and Community Planning for the Canada Advisory Committee on Reconstruction* ("Curtis Report") (Ottawa: King's Printer: 1944).
2. Community planning is a term used mainly in Canada to describe professional activity generally known as town planning in Britain, City planning or urban planning in the United States, or urbanisme in France: G. Hodge, D.L.A. Gordon and P Shaw, *Planning Canadian Communities: Introduction to the Principles. Practice and Participants* in the 21st Century, 7th ed. (Toronto: Nelson, 2021), 8-11. Widespread adoption of this term came only after the 1944 publication of the Curtis Report.
3. Sue Hendler and Julia Markovich. *I Was the Only Woman: Women and Planning in Canada* (Vancouver: UBC Press, 2017).
4. Pierre Filion, "Suburban Inertia: The Entrenchment of Dispersed Suburbanism," *International Journal of Urban and Regional Research* vol. 39 (2015), pp. 633-634.
5. Richard Harris, *Creeping Conformity: How Canada Became Suburban, 1900-1960* (Toronto: University of Toronto Press, 2004).
6. Jill Grant, Pierre Filion and Scott Low, "Path dependencies affecting suburban density, mix, and diversity in Halifax," *The Canadian Geographer/ Le Geographe Canadien* vol. 63 (2019), p. 250.
7. Harris, *Creeping Conformity*.
8. Paul Pierson, "Increasing Returns, Path Dependence, and the Study of Politics," *The American Political Science Review* vol. 94 no. 2 (2000): pp. 251-267; Andre Sorensen, "Taking path dependence seriously: an historical institutionalist research agenda in planning history," Planning Perspectives vol. 30 (2015): pp. 17–38.
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13. Andre Sorensen, "Planning History and Theory: Institutions, Comparison, and Temporal Processes," in C. Hein (ed.), *Routledge Handbook of Planning History*. (London, New York: Routledge, 2018), p. 43.
14. Sorensen, "Planning History and Theory," p. 38.
15. Andre Sorensen, "Global Suburbanization in Planning History," in C. Hein (ed.), *Planning History Handbook* (London: Routledge, 2017): pp. 386-399; Sorenson, "Taking path dependence seriously".

16. Sorenson, "Global Suburbanization in Planning History," p. 396.
17. Sorenson, "Global Suburbanization in Planning History."
18. David L.A. Gordon, "Humphrey Carver and the federal government's post-war revival of Canadian community planning," *Urban History Review* vol. 46 no. 2 (2019): pp. 71-84.
19. Humphrey Carver, *Compassionate Landscape* (Toronto ON: University of Toronto Press, 1975); Gordon, "Humphrey Carver." Carver was a Vice-President of the CPAC before being recruited to the CMHC in 1948 as its research coordinator, giving him a central position in CMHC's post-war planning activities.
20. The Community Planning Association of Canada fond, which dates between 1946 and 1978, included 3.1 metres of textual records, including background materials, treasurers' records, financial records and other files, logged under the archival reference number R2852-0-9-E or MG28 I 14.
21. The CMHC Fond at LAC (reference number R1197-0-4-E) includes a variety of materials ranging from textual records to architectural drawings, maps, technical drawings, film reels and audio cassettes, according to LAC finding aid.
22. Harold Spence-Sales, How to Subdivide: A handbook on the layout of housing developments (Ottawa, ON: Community Planning Association of Canada, 1950).
23. Miranda Virginillo, *How the Community Planning Association of Canada Influenced the Development of Planning in Canada, 1946 – 1964* (Master's Report: Queen's University, 2022).
24. Virginillo, *Community Planning Association of Canada*.
25. Periodicals from the National Office of the CPAC: *Layout for Living* (1947-1950), CPAC Newsletter (1950-1954), *Community Planning News* (1954-1959), and *Community Planning Review* (1951-1971).
26. Special publications such as Harold Spence-Sales, *How to Subdivide*; Norah McMurray and Harold Spence-Sales, *Outlines of Canadian Planning Law: A Comparative Survey of Town Planning Legislation Operative in the Provinces of Canada* (Ottawa: Community Planning Association of Canada, 1952); *Community Planning is Common Sense* (Ottawa: Community Planning Association of Canada, 1948); and A *Case for Satellite Towns* (Ottawa: Community Planning Association of Canada, 1953). A larger list of publications from the CPAC can be found in Miranda Virginillo, *How the Community Planning Association of Canada Influenced the Development of Planning in Canada, 1946 – 1964* (Master's Report: Queen's University, 2022), Table 4-1.
27. Curtis, "Housing and Community Planning," pp. 169-170.
28. Layout for Living 1947 no. 2, p. 2.
29. Alan H. Armstrong was the first secretary of the CPAC and editor of *Layout for Living*, selecting the topics for publication while operating out of his office at CMHC Headquarters in Ottawa while on loan to the CPAC from his position as Chief Architect.
30. Susan J. Briggs, *The Community Planning Association of Canada: A Pressure Group* (Undergraduate Thesis: Queen's University, 1964), p. 1. Retrieved from LAC MG28 I 14 (R2852-0-9-E). CPAC 8, File 15. Sketchy likely meaning vague in this context.
31. Persons interviewed by Briggs: Alan H. Armstrong, Eric Beecroft, Major-General M.L. Brennan, J.F. Brown, Humphrey Carver, T. S. Chutter, W. Harold Clark, Catherine Corbett, W. A. Dempsey, Mrs. H. A. Elliot, Jennifer Joynes, Miss J. M. Laventure, A. L. S. Nash, John Pearson, Norman Pearson, Mrs. R. H. Scrivener, D. Taylor, Eric Thrift, and E. F. Tonge.
32. Briggs defines "pressure group" as "all groups which collectively pursue common political goals (Excluding parties, that is groups which seek directly to govern)" as quoted in Harry Eckstein, *Pressure Group Politics* (London: George Allen & Unwin, 1960), p. 9.
33. Both Briggs and financial statements from the CPAC fonds show that the CMHC grant accounted for at least 76% of the annual CPAC's revenue (both in 1959 and 1963).
34. Briggs, CPAC, p. 42.
35. CPAC Newsletter 1952 no. 5, p. 5.
36. Humphrey Carver, "The Universities and Community Planning," *Community Planning Review* vol. 4 (1954), pp. 19-23.
37. *Community Planning News* 1955 no. 3, p. 9 lists two available planners; Clayton Research Associates Ltd. and D. G. Wetherell Associates Ltd, *Phase 2 Report on the project: The Evolution of Post World War II Canadian Housing Technology* (Ottawa: CMHC, February 1994), *Transcript of Samuel A. Gitterman Interview*, p. 132, states that 12 planners moved from the U.K. at the request of CMHC to find employment in Canada.
38. Clayton, *Phase 2*, p. 132.
39. Curtis, *Curtis Report*, pp. 168-169.
40. Curtis, *Curtis Report*, p. 169.
41. Curtis, *Curtis Report*, p. 169.
42. Curtis, *Curtis Report*, pp. 169-170.
43. Harold Spence-Sales, *Planning Legislation in Canada* (Ottawa: CMHC, 1949).
44. McMurray, *Outlines of Canadian Planning Law*, p. ii.

45. Quebec and New Brunswick are exceptions.
46. LAC MG28 I 14 (R2852-0-9-E), CPAC 4, File 5, *Minutes – Special Meeting of Council, CPAC Thinking Conference*.

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Vienna´s informal "wild" settlements as resistant and resilient urban environments

A history of urban reform, adaptation and integration

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Abstract

In 1918, after the end of WWI, a large part of Vienna's 2 million inhabitants was struck by severe famine, cold, disease and desperate housing conditions. In this precarious situation, more than 100 thousand urbanites resorted to self-empowerment. Illegal forest clearings, vegetable gardens and squats with primitive houses and sheds were expanding in the Danube floodplain and the alpine foothills, in the fields and wastelands on the fringes of the city. As a 1922 report in the National Geographic Magazine curiously noted, makeshift garden homes "surround the city like a ragged girdle and are the result of the housing famine that has driven thousands of families to live here in huts, [...] where they add to the city's food supply by raising vegetables about the front door." (Solano 1923, p.79) Albeit reduced in scale, this type of informal colonization would reoccur during the world economic crisis of the Thirties and in the instable, precarious years after WWII (Hauer & Krammer 2018). While some major spots were cleared by the authorities, from the 1950s to the late 1990s most former illegal settlements were upgraded, connected to public water-, power- and traffic infrastructure and legalized in terms of zoning and construction law. This strategy of adaption allowed former "slums" to gradually transform into formal residential areas, that today still represent a significant layer of the fringe area of the city. The informal settlements that were initially symptoms and manifestations of phases of acute crisis - driven by a broad "grass-roots-movement" - gradually became formalized resilient environments. The legacy of "informal Vienna" is still influential in today's city fabric and invites further explorations. As a consequence, the paper will elaborate on this largely unknown history of Vienna, today seemingly one of the world's most formalized agglomerations. Covering the period from 1918 to present, it will discuss new findings of the ongoing research project "Wien informell", especially: 1) the post-WWII-debate about the challenge that informal settlements represented for planning authorities, their urban form and their reform; 2) the processes of social and physical upgrading.

Keywords

Informal Urbanization, Urban Reform and Adaptation, Vienna, Informal Colonization, Adaption and Integration, Transformation, Formalized Resilient Environments, Legacy of Informality

How to cite

Krammer, Andre; Hauer, Friedrich; “Vienna´s informal “wild” settlements as resistant and resilient urban environments: A history of urban reform, adaptation and integration”. In Carola Hein (ed.), *International Planning History Society Proceedings*, 19th IPHS Conference, City-Space-Transformation, TU Delft, 5 - 6 July, 2022, TU Delft Open, 2022.

Transforming Contested Space to Shared Place in Divided Nicosia
Will Handmade Place-Making help Peace Making?

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Abstract

Definitions of resilience, including physical, biological, social, and environmental sciences, mention adapting and transforming in response to stress and strain. This situation allows movement towards a new configuration rather than staying within certain limits. It also helps social communities cope with uncomfortable situations due to political, economic, and environmental changes. It is significant that urban life, which includes social assets of all sizes, from individuals to society, provides urban form flexibility to ensure optimum sustainability. The adaptability of the members of the society to change helps to increase the resilience level of that city. Conflicting situations and change are inevitable in cities that experience social division due to adverse political effects. The public spaces that develop under the influence of the city's social, political, and economic conditions can be affected by the change process of social ideologies. When there are dynamics that cause social and political ruptures in society, interaction in public spaces may decrease, and social ties between citizens may weaken accordingly. The change in public areas can be observed in arenas where everyday debates occur due to contested states. The high walls separating the public space and the control points that create the negotiation restrictions, which constitute 'the other' concept, are at the beginning of the contested areas that far from the effects of daily life. The positive change in the divided cities is the new space formations where human activities are observed in these abandoned areas. Public spaces that reflect social life, protect the urban identity, and develop citizens' sense of belonging to the city can promote social interaction and change as long as they remain functional and sustainable.The existence of public spaces that can be safely accessed and bring people together by creating a sense of belonging creates a holistic and peaceful effect. The concept of resilience in this study aims to explain the 'transformation' that started and continues in the divided city of Nicosia public spaces, including citizens, administrative authorities, and international actors. For this purpose, streets with new configurations of controversial public spaces are examined. The handmade urbanization process of space creation activities that started on the streets provides an invisible permeability to the walls of Nicosia while providing a transformation that brings the two communities together and increases social interaction. In this context,

public spaces and streets used as social activity areas were analyzed, and archive materials were used together with visual and written records. The study, which wants to show that human behavior and space interaction can adapt to the changing order in urban life and increase resilience, underlines the positive and peace making of new space creation activities.

Keywords

Nicosia, Urban transformation, Handmade place-making, Divided cities, Urban resilience

How to cite

Bulanik, Sevil; Gurdalli, Huriye; "Transforming Contested Space to Shared Place in Divided Nicosia: Will Handmade Place-Making help Peace Making?". In Carola Hein (ed.), *International Planning History Society Proceedings*, 19th IPHS Conference, City-Space-Transformation, TU Delft, 5 - 6 July, 2022, TU Delft Open, 2022.

Brownfield redevelopment
Towards a comprehensive approach. French and Russian experience

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Abstract

Brownfield redevelopment is one of the major issues many developed cities have faced in the last decades. This type of urban action often requires its own operating models and regulations due to the complexity of land use, larger geographical scale as well as environmental challenges. To understand the specifics of the problem we take a comparative look at brownfield redevelopment in Russian and French cities.

Keywords

urban renewal, brownfield redevelopment, urban renewal, zoning rules, urban coordination, comprehensive approach, design-code

How to cite

Kiseleva, Tatiana; “Technical Assistance of the Soviet Specialists to China on Urban Planning in 1949-1959”. In Carola Hein (ed.), *International Planning History Society Proceedings*, 19th IPHS Conference, City-Space-Transformation, TU Delft, 5 - 6 July, 2022, TU Delft Open, 2022.

DOI: 10.7480/iphs.2022.1.6437

INTRODUCTION: DEINDUSTRIALISATION ISSUES

The article proposes a comparative look at French and Russian practice of brownfield redevelopment through the examples of two redevelopment areas: the Massena sector, Paris Rive Gauche (Paris) and the Garden Quarters (Moscow). This choice is dictated by the author's research theme: the comparative study of the evolution of urban regulations across different countries.

Brownfield redevelopment is a rather recent phenomenon. In the Russian capital the process of deindustrialization started in the 1990s[1], while in the French capital both the relocation of active industrial facilities and decline of the existing industries started in the mid-1970s[2]. In both cases, deindustrialisation resulted in hundreds of hectares of abandoned land that constitute an important land resource. In Moscow, the former industrial sites totalled about 17% of the city's overall area in its former boundaries[3]. Moscow government is prioritizing the redevelopment of these zones: new transport infrastructure helps to raise both their accessibility and investment attractiveness.

Brownfield areas often appear to be among the last available for the city's inner development. Many of them are located within urbanised areas. Because these zones are surrounded by the existing urban fabric, redevelopment ought to take this context into account. The goal is to "let the city inside" these areas that used to be literally terra incognita on the map: walled-off and inaccessible to the general public.

The specifics of brownfield redevelopment lie in its ecological issues and peculiarities of land division. First, soil pollution within these areas and necessity of clean-up hamper development. Secondly, the shape and arrangement of parcels in former industrial zones is often unsuitable for residential function: reparcelling appears to be as a necessary step. Furthermore, the re-development usually implies re-use and reconversion of existing urban fabric. Brownfields may comprise several remarkable buildings, valuable industrial heritage objects left as artefacts and as memory of former activity.

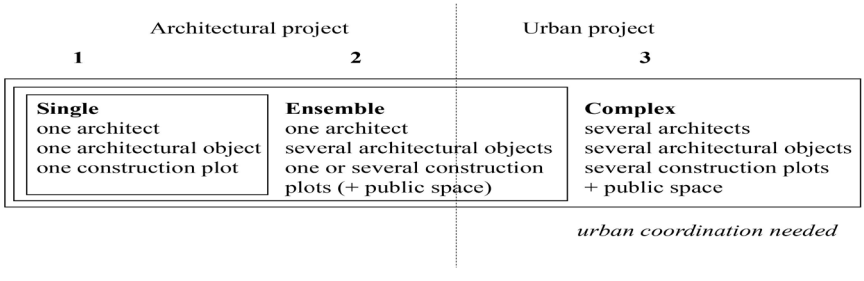

Fig. 1. Three types of real-estate development

On the other hand, the redevelopment of brownfields can be compared with the redevelopment of other types of urban wastelands: military, residential, commercial, etc. All of them belong either to ensemble or to complex type of development. We propose to distinguish three types of real-estate development, as illustrated on figure 1.

Single development means construction of one object on one plot and by one architect (infill development is one of examples). In Russia, the term *tochechnaya zastroika* (literally "one-plot development") has an equivalent meaning. In French cities urban regulations within areas of single development (*le diffus*), are set by zoning rules that guarantee the insertion of new architectural projects into the existing urban fabric. The second and the third type should not be confused. The ensemble type concerns real-estate development led by one architect, on one or several plots. As this type of development usually follows one project, the problem of urban coherence appears to be easily solved. In this study, we focus on the third type, the complex development, which involves several architects and developers, including public space development. A complex development area usually comprises a patchwork of both developed and undeveloped, public and private spaces and therefore raises the question of urban coherence. The geographical scale of complex development is of little importance: its area can vary from two to thousands of hectares. The complexity is what matters most.

The method of the complex development consists in a sort of temporary "operational add-on" bringing together several development projects that are located within the same area. It usually supposes common boundaries and common operation name, common operator and common "game rules" and regulations. All these measures are applied while conception and realisation stage and can disappear after real estate and public spaces delivery: once this "common umbrella" disappears, the maintenance stage doesn't differ from the rest of the city.

The complex nature of the brownfield redevelopment raises several problems of coordination. Which urban regulations help to reach the unity of architectural solutions inside the redevelopment zone? Which tools help to ensure a harmonious insertion of the zone in the built environment? How to consider all actors involved in the redevelopment process? One of possible answers is that complex development must rely on comprehensive approach including balance of interests and urban coherence.

COMPREHENSIVENESS AS BALANCE OF INTERESTS

The term "comprehensive" means "complete and including everything that is necessary" (Cambridge dictionary) or "of broad scope or content" (Collins dictionary). In this study we will understand this term not only as "all-inclusive", but also as "coherent whole", (the prefix "co-" meaning "together", "mutually", "jointly"). Speaking about complex urban development, comprehensiveness can be understood as a certain balance of public and private interests ("acting together") and as a certain unity of projects ("being together"). The first is ensured by the role of manager (operator), the second- by the role of urban coordinator.

As mentioned earlier, complex redevelopment implies multitude of actors and multitude of

projects headed by public or private operators. We can distinguish three main operating models of brownfield redevelopment:

- Public-led brownfield redevelopment
- Brownfield led by semi-public society
- Private-led brownfield redevelopment

In Russian cities, the first and the third model appear most frequently. In Moscow, several recent projects of brownfield redevelopment follow the model of private-led development. Among the examples, the redevelopment of former car-factory ZIL into mixed-use area including high-class residential, commercial and cultural functions; the redevelopment of former resin plant Kauchuk into high-class residential area Sadovie kvartali, the redevelopment of former metallurgical plant Serp i Molot into mixed-use area including high-class residential, commercial and cultural functions, etc.

Public-led brownfield redevelopment in Moscow most often results in construction of affordable housing by the means of address investment program (*Adresnaya investicionnaya programma*) established by Moscow government. Architectural solutions are elaborated by semi-public or public project companies. One of examples, the redevelopment project of Krasnaya Presnya plant into residential area was realised by Mospromproekt, project institution integrated to municipal services.

However, it must be noted that in all the above-mentioned cases of private-led brownfield redevelopment as well as in many other cases the redevelopment area has a unique developer, thus the decision-making processes appear to be considerably simplified. As for public-led brownfield redevelopment, the presence of unique project institution solves the problems of urban coherence and so this model appears closer to the ensemble rather than to complex type of development.

THE KURT, AN ATTEMPT TO COPE WITH THE COMPLEX NATURE OF BROWNFIELD REDEVELOPMENT IN RUSSIA

But which model should be applied in case of complex development? In 2016 under the Federal act no. 373 a new operating model, the “Complex and sustainable urban development” (Kompleksnoe i ustoychivoe razvitie territorii, KURT further in text) makes its appearance in the Russian Town-Planning Code. First written specifically for brownfield redevelopment, the act finally concerned all complex development areas.

The Russian Town-planning code gives following definition of the Complex and sustainable urban development[4]: “Action of complex and sustainable urban development is an activity that aims to achieve the most efficient land use by preparation and approval of planning documents for residential, social, commercial and other real estate as well as for necessary objects of communal, transport and social infrastructure, and also concerning architectural project, construction and reconstruction of all above-mentioned objects”. According to the code, the

"complex and sustainable urban development" can be engaged either by public authority or by private landowner.

The KURT being a very recent operating model, it is not possible to draw any conclusions. We will take a short overview of a similar French model, the ZAC, whose history covers over half a century.

THE ZAC, KEY OPERATING MODEL FOR BROWNFIELD REDEVELOPMENT IN FRANCE

In French cities brownfield redevelopment usually follows the operating model called "*Zone d'aménagement concerté*", ("Joint development zone" or "Comprehensive development area", ZAC further in text). This model was introduced by the Land orientation act (*Loi d'orientation foncière*) in 1967 and came to replace the Zone of priority urbanization (*Zone à urbaniser par priorité,* ZUP further in text). For its part, the ZUP created in 1958 aimed to cope with a deep housing crisis by developing mostly public-led large-scale urban projects, among which the Grands ensembles, social residential units built massively in the outskirts of big cities. The changeover from the ZUP to the ZAC was a synonym of the changeover from public to public-private, from large-scale (the ZUP couldn't contain less than 500 dwelling units[5]) to multiscale development, from new urbanisation to the reuse of urbanised areas and from ensemble to complex development models.

The French Town-Planning Code gives following definition of the *Zone d'aménagement concerté*: "The Zones d'aménagement concerté are zones, inside which a public authority or specialized public institution decides to intervene in order to realize or to make realize the development and equipment of plots of land, particularly that acquired or planned to be acquired by this public authority or institution in order to transfer or to concede them lately to public or private users"[6].

As mentioned, the ZAC are led either by public authority ("*aménagement en régie*" as a form of direct development) or most often by a semi-public society (*Société d'économie mixte,* SEM further in text) delegated by public authority by means of concession contract. The SEM becomes the key actor of redevelopment process: it has a responsibility of land management, expropriation, selection of developers and public consultation. The land management- acquisition of land by the SEM and its following sale to private developers with detailed specifications- appears to be an efficient tool for controlling and phasing of the redevelopment process[7].

The balance of public and private interests is achieved by the financial model of the ZAC: schematically, the benefits from land sale, building rights and other private developer's contributions must be equal to the expenditures for the development of public space, transport and social infrastructure[8].

COMPREHENSIVENESS AS URBAN COHERENCE

As mentioned earlier, complex development implies multitude of architectural projects that logically raises the question of urban coherence and common urban rules. Olivier Chadoin distinguishes two solutions : “Schematically, the alternative is the following : either let the isolated actors in the minimal legal frame and let them express different styles risking collision between different aesthetic registers and rationalities ; or impose strong common constraints to make the urban space reach a certain aesthetic coherence”[9].

One of the major reasons for setting common constraints and common urban rules is the individualisation of contemporary architecture. The diversification of styles, construction methods and materials doesn’t allow to speak about the existence of any “urban consensus”[10] as it used to exist for the nineteenth century architecture based on academic education. The architecture of the Modern Movement deeply transformed the urban fabric by reviewing plot dimensions, road alignments, heights and forms. Industrialisation introduced new types of construction methods. The spread of architectural competitions in the 70s contributed to individualise architectural solutions and the off-plan property sales (Vente en état future d’achèvement, VEFA) integrated in 1967 contributed to raise the importance of the architectural image: selling unique atmosphere, unique image has progressively become a commercial strategy.

The attempt to “reconcile the architectures” was undertaken in the 1980s with the “urban architecture” or “urban milieu” approach. The article of Bernard Huet, one of its key protagonists, called “Architecture against the city” highlights the contradiction between the collective character of the city and the individual character of architecture, pleading for the dominance of the first above the second. The “urban architecture” generating coherent urban fabric was supposed to be the solution against the excessive individualism of architectural projects: “Architecture is not capable to substitute the city for producing a new context where it doesn’t yet exist. The first function of urban project is to define a context before the architecture” [11].

The project methods of “urban architecture” approach entered the field of urban regulations as well. It is no coincidence that the first cases of urban coordination inside the ZAC date back to the 1980s and become a common practice in the 1990s[12]. This urban coordination is ensured by the architect-coordinator, another key figure in complex development projects. Chosen by the public authority or by the SEM by means of urban design consultation, the architect-coordinator becomes its partner in setting the overall program and the spatial organisation of the redevelopment area. Yves Lafoucrière, director of the SEMAEST in the 1990s, (Parisian semi-public society of the Eastern district development) gives a following overview of the necessary qualities of coordinator: “We consider him as our partner, and it is necessary to be on the same wavelength. Furthermore, we must be sure that the chosen person will be capable to be involved in a very long-time operation, five, ten years, or even more. It supposes that the person should be determined and have a certain experience behind his back (…). The coordinator must also have a certain charisma to be able to face up to the tensions with diplomacy”.

Project seminars with architect-coordinator are held in workshop format with the SEM representatives, project architects, developers and municipality employees. Schematically the process of urban coordination within the ZAC is illustrated on figure 2.

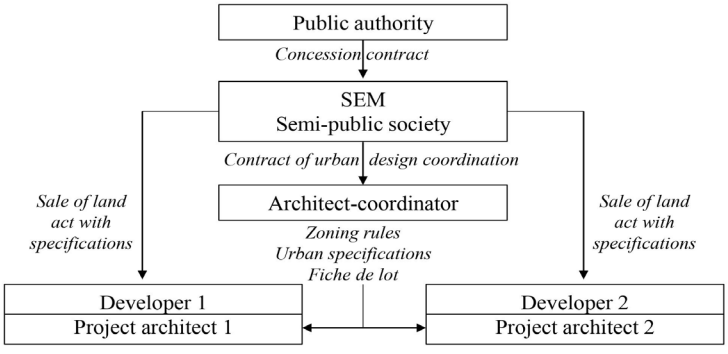

Fig. 2. Urban coordination within the ZAC

The architect-coordinator is responsible for the redevelopment area masterplan as well as for number of regulating documents. Zoning rules are among the most important. It must be noted that until 2000 urban regulations within the ZAC were set by a specific document, the Area development plan (*Plan d'aménagement de zone*, PAZ). Separated from the zoning rules, this document indicated the position of construction plots, spatial constraints (visual axes, pedestrian walkways, etc.), cultural heritage objects, etc. Only in 2000, under the Urban Solidarity and Renewal Act (*Loi relative à la solidarité et au renouvellement urbains*, loi SRU) urban regulations within the ZAC were included into the zoning rules, even if the redevelopment areas still benefit from special zones on the map that enable them to set specific rules and conditions. In this way, the ZAC have become the "open-air urban design laboratories" in which experimental and innovating urban rules can be tested.

Besides masterplan and zoning rules, architect-coordinator also establishes architectural and urban specifications (*Cahier des prescriptions architecturales, urbaines et paysagères*, CPAUP) as well as specific lot prescriptions, the *fiche de lot*. As zoning rules usually concern urban morphology, the specifications concern certain aesthetic characteristics of architecture and public spaces (materials, colours, stylistic features, landscape design prescriptions, etc.) and specific lot prescriptions detail more finely the volumes within each construction plot as well as floor height, position of parking entries, infrastructure connections, etc. The ensemble of these documents provides a clear and detailed framework for project architects and set up a "common denominator" in order to reach a coherent urban fabric. The Massena Nord project is one of examples for this kind of approach.

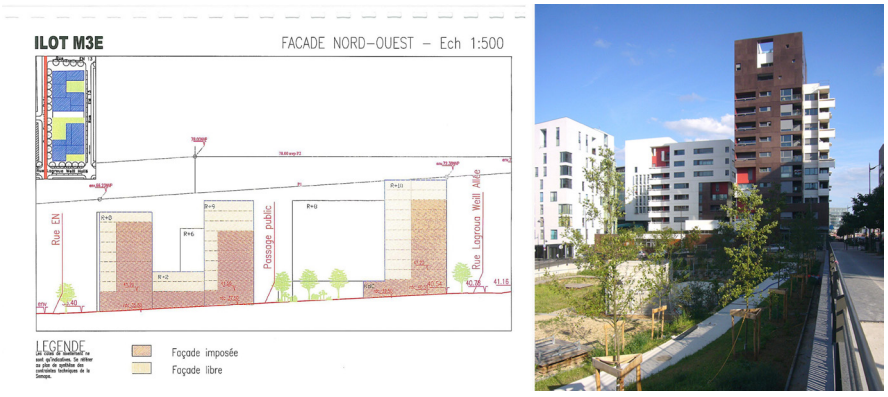

Fig. 3. Masséna Nord Sector, Paris Rive Gauche, 1995. Specific lot prescriptions and architectural realisation. Architects: Atelier Philtre (Christophe Massin, Hervé Dubois)

UNITY IN DIVERSITY: THE MASSÉNA NORD SECTOR IN PARIS

The brownfield redevelopment of the ZAC Paris Rive Gauche launched in 1991 illustrate one of the first[13] and the most methodical approaches to urban coordination in Paris. The redevelopment the area covering about 130 hectares and previously occupied by various industrial and storage facilities (cold storage, railway infrastructure, compressed air plant, etc) was headed by a semi-public operator, the SEMAPA (Parisian semi-public society of urban development).

Four years after the program start, the SEMAPA organised an urban design consultation for the second stage of the ZAC, the Masséna Nord sector. The redevelopment program included residential (both social and private), office, commercial and higher education buildings as well as social infrastructure and public spaces. Christian de Portzamparc was selected as architect-coordinator with "the open block" concept[14], a model that has been widely theorized since the Masséna Nord operation. Christian de Portzamparc rejected the classical idea of resemblance and introduced the idea of diversity. The still-life and the zoo serve as references for this city vision[15]. Residential buildings differ by materials and colours, but their sculptural features interact to form a coherent whole.

The diversity by Christian de Portzamparc is not spontaneous but orchestrated. Specific lot prescriptions determine the imposed and the free volume envelope for each construction plot (figure 3 a). Realised architectural objects illustrate the research of verticality and porosity in the frame of classical road alignment (figure 3 b).

In the case of Masséna Nord sector, we can easily speak of "author's urbanism" (*urbanisme d'auteur*). In some way, the architect-coordinator projects his author's city vision to the whole area setting game rules other architects must accept.

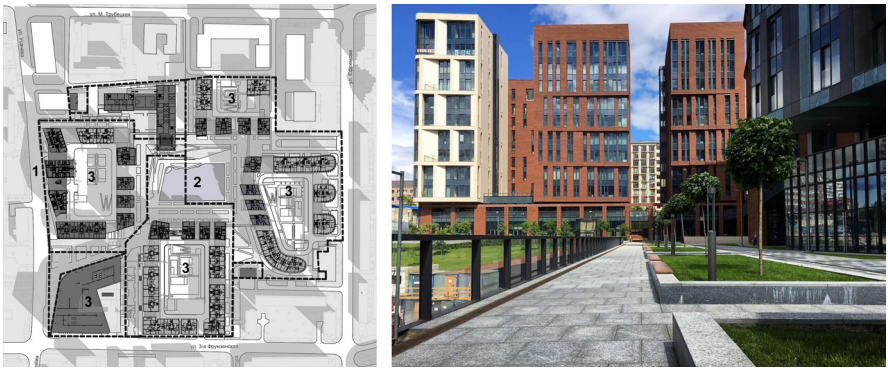

Fig. 4. Garden quarters, Moscow. 1- existing building (1915), 2- central open space, 3- residential and office plots.

ARCHITECTURAL ROUND DANCE : THE GARDEN QUARTERS IN MOSCOW

There are few examples of brownfield redevelopment with similar architectural coordination in Moscow. And if there are some, they usually concern high-class real estate. The urban project Sadovie Kvartali (Garden quarters) is one of the first examples of urban and architectural coordination initiated by private developer. The redevelopment area previously occupied by rubber plant Kauchuk totalises around 11 hectares in the historical Hamovniki district of central Moscow. The redevelopment program includes mainly residential and office buildings arranged in four blocks surrounding a rectangular square (figure 4 a). Sergey Skuratov, both architect-coordinator and author of the major part of residential buildings within the area, set a design-code prescribing heights, volumes as well as the use of brick referring to the existing building of the early 20th century (figure 4 b). In his interview the architect gives following vision of urban coherence:

“The integrity and the expressiveness of “Garden quarters” urban milieu is of major importance for me. I tried to include all the buildings of the area into an “architectural round dance” – for the spectator, at least an experienced one, it has to be clear without words in which relations the volumes are arranged one to another, for which reason one or another material and one or another form are used. The urban milieu should speak for itself” [16].

In comparison with the Massena sector, the Garden quarters design-code didn’t have the same juridical force: it was a convention all parties accepted to follow. As Sergey Skuratov notices, project architects were selected for their capacity to dialogue[17]. The lighter juridical value of the design-code permitted one of project architects not to follow the prescriptions: a curved glass volume contrasts with the regularity of the surrounding brick fabric.

Few years after the Garden quarters project, another private-led complex redevelopment project proposed a similar model of architectural coordination: the brownfield redevelopment of

the former plant-factory ZIL. At the same time this type of approach remains an exception: in Russian cities the process of complex brownfield redevelopment with architectural and urban coordination is only just starting.

CONCLUSION

The specificity of brownfield redevelopment lies in its complex nature: it is related not to only one plot, but to the whole part of the city. The comprehensive approach is about setting a certain number of common operational, urban and architectural rules within the redevelopment area. Flexible or strict, detailed or general, they all aim to ensure the balance between public and private interests and to reach a coherent urban landscape.

ENDNOTES

1. "Renovaciya promzon."
2. Fontaine, Vigna, "La désindustrialisation, une histoire en cours," 5
3. "Renovaciya promzon."
4. Russian Town-planning code, art. 1.34.
5. Décret no. 58-1464 du 31 décembre 1958 relatif aux zones à urbaniser par priorité, article 1.
6. French Town-planning code, art. L311-1.
7. Demeure, Martin, Ricard, "La ZAC", 199.
8. Demeure, Martin, Ricard, "La ZAC", 147.
9. Chadoin, "L'architecte coordonnateur, entre originalité et ordre," 70.
10. "Aventures architecturales", 26.
11. Huet, "L'architecture contre la ville," 11.
12. "Un coordonnateur: où, comment, pourquoi?", 54
13. Among other ZAC as Reuilly-Diderot and Bercy
14. Portzamparc, *L'îlot ouvert*, 152.
15. Idem, 161.
16. "Antikrizisniy apgreid."
17. "Eksperiment vo imya goroda."

ACKNOWLEDGEMENTS

Special thanks to my PhD supervisors, prof. Jocelyne Dubois-Maury (Université Paris-Est Créteil) and prof. Oleg Breslavtsev (Moscow Institute of Architecture) for their methodological assistance.

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IMAGE SOURCES

Fig. 1. Image by author
Fig. 2. Image by author
Fig. 3 a. SEMAPA, http://semapa.fr
Fig. 3 b. Christophe Massin architects, http://christophemassin.fr
Fig. 4 a & b. Sergei Skuratov architects, https://www.skuratov-arch.ru

5 JULY: SESSION 4.4

(RE)WRITING THE CITY.

Chair: Phoebus Panigyrakis

Post compact city
Repositioning Brasília's historiography in the context of the 21st century urbanization

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Abstract

The idea of a post-compact city emerges from the pressing need for a design framework to deal with the production characteristics of contemporary urban space. It is justified by the search for an alternative to the paradigm of the compact city, currently hegemonic in the field of urbanism, but which has excluded most of what constitutes the urban experience today. The hypothesis is that Brasília, a city designed in a less compact and more diffused form in the territory, can inform effective design and planning strategies for sustainable development in the 21st century. Brasília was radically criticized for the alleged excess of empty spaces, the great distances, the prioritization of the automobile, the emptying of public space, and the denial of the traditional city. The strength of this critical framework has persisted until the today, becoming entrenched in the field of urbanism and urban planning, interdicting Brasília as a possible reference for contemporaneity, while isolating it as an "exceptional case", worthy only of heritage museification as a modernist icon. As a response to the scenario of violent urbanization in the 21st century, the current state of the art in urban planning privileges the concept of compact city as a spatial paradigm capable of solving the chronic problems of our cities, and insert them into a cycle of sustainable development. The current apology for the compact city thus reinforces, in contrast, the criticism of sprawl, whose origin and cause can then be attributed to the utopian dimension of the theses and achievements of modern urbanism considered guilty for the rejection of the traditional city and its spatial disruption that resulted in the loss of qualities associated with it. This study intends to revisit and reinterpret Brasília's historiography and urbanism in order to build new design and planning approaches, based on the analysis of relevant urban spaces in the city, which meet the challenges posed by contemporary dispersed urbanization with greater efficiency and flexibility. We start from two central hypotheses. First, that urban dispersion, as a phenomenon characterized by fragmentation, and uninterrupted expansion of the urban fabric, prevalence of interstitial voids and increased distances between urban centers, cannot be controlled only through the principles of densification and compaction, as recommended by the contemporary urbanism. Second, that Brasília, precisely because

it was designed and planned with more dispersed spatial configurations, but full of design qualities, can inform new principles of urban design and planning useful for contemporary cities, and better suited to the types of characteristic spaces of dispersed urbanization. Adopting this more inclusive look at the planned, the modern, the modernist, that is, an 'urban' not guided by the standards of the traditional city, implies in developing conceptual and design categories that are capable of dialoguing with its characteristic elements: the infrastructural component, the generic city, and the non- built. The main idea of this paper is to debate new references for urban design and planning through a careful and deep understanding of the history of Brasilia, considering how its spaces have been constructed, appropriated and used over time. This analysis presents the possibility of a post-compact urbanism, which reduces the inequalities and spatial asymmetries of the dispersed city, in order to transform Brasília into a useful reference for dealing with the complexity and challenges inherent to the contemporary city.

Keywords

Brasilia, urban sprawl, compact city, urbanization, urban history

How to cite

Lassance, Guilherme; Saboia, Luciana; Pescatori Carolina; Capillé, Cauê; "Post compact city: Repositioning Brasília's historiography in the context of the 21st century urbanization". In Carola Hein (ed.), *International Planning History Society Proceedings*, 19th IPHS Conference, City-Space-Transformation, TU Delft, 5 - 6 July, 2022, TU Delft Open, 2022.

Urban planning paradigm as an indicator of the State paradigm (on the example of public spaces in Moscow)

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Moscow architectural institute

Abstract

The object of the research is the algorithm of mutual influence of the State and Urban planning paradigms and its reflection in the planning decisions of public spaces in Moscow. The sacred, state and utilitarian symbolism of public spaces becomes an indicator of the State paradigm in the layout of the capital. The paper concludes that public spaces carry a more significant ideological burden than individual architectural structures and their ensembles. The study of the main squares and highways proposed for performing ceremonial public functions proves that their evolution constitutes a special data bank that is in demand when the authorities at various levels solve current socio-political problems by urban planning and architectural and artistic means. The subject of the study was the search for motivating reasons for urban planning decisions of public spaces in Moscow. The article considers a scientific approach to the evolution of particularly significant public spaces, based on historical, cultural and architectural studies, on following the vector of territorial planning laid down in the urban planning policy of the administration, General Plans of Moscow. The result of the research should be the author's development of approaches to adequate ways to determine the potential impact of urban planning and state paradigms on the formation of the capital of Russia on the example of public spaces in Moscow.

Keywords

State paradigm, Urban planning paradigm, Public spaces, Moscow

How to cite

Sergei Tkachenko; "Urban planning paradigm as an indicator of the State paradigm (on the example of public spaces in Moscow)". In Carola Hein (ed.), *International Planning History Society Proceedings*, 19th IPHS Conference, City-Space-Transformation, TU Delft, 5 - 6 July, 2022, TU Delft Open, 2022.

Curitiba 1960s transformations and postmodern ideas

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Abstract

Over the course of a few decades Curitiba evolved from a mid-twentieth century provincial capital city in southern Brazil to an ecological capital and a model city. How did Curitiba become a world model city? Contemporary planning ideas in global diffusion certainly contributed to it. Events such as the creation of the local planning institute and the establishment of the first local architecture and urbanism course triggered a series of urban transformations. Likewise, young, migrant architects introduced challenging ideas. In a stimulating environment, international experiences and connections fostered the development of innovative proposals. Moreover, differing from the nationally hegemonic modernist architecture and rationalist urbanism, Curitiba's planners focused on the actual needs of the city, its specific physical context and social milieu, despite vocal resistance to the term postmodernism. Local identity, belonging, cultural memory, revitalization, recycling, and pedestrianization were valued as planning targets, as well as the preservation of the natural environment. Drawing upon a few paradigmatic designs, this paper accounts for the successful planning of Curitiba and its promotion internationally. It critically traces the planning history of this world-class city in the broader context of Brazilian planning by presenting the early postmodern urbanism implemented in Curitiba.

Keywords

sustainable development, environmental planning, postmodern urbanism, planning model, planning diffusion.

Keywords

Rego, Renato Leão; "Curitiba 1960s transformations and postmodern ideas". In Carola Hein (ed.), *International Planning History Society Proceedings*, 19th IPHS Conference, City-Space-Transformation, TU Delft, 5 - 6 July, 2022, TU Delft Open, 2022.

DOI: 10.7480/iphs.2022.1.6438

INTRODUCTION

Curitiba, the capital city of Paraná state in southern Brazil, has been referred to globally as an ecological capital and 'environmentally sustainable model city'[1]. The city has undergone several decades of town planning since the French urbanist Alfred Agache presented his proposal for improving and modernizing the provincial city in 1943. Over the years a combination of factors and ideas have contributed to the celebrated image of the city we know today. This paper explores those factors in order to answer the question, how did Curitiba become a world model city?

Thus, I explain that in 1960s the establishment of the first local course of architecture and urbanism, the preparation of a new town plan and the creation of the Curitiba Institute for Research and Town Planning (IPPUC) triggered a series of urban transformations. A group of young, migrant architects worked together at the university and the planning institute as well as in private commissions and successful competitions. Some of these professionals had been trained in São Paulo, which led to the misconception that Curitiba's architecture was just a 'by-product' and a 'dialect' of the 'paulista school'[2]. In fact, in a favourable and stimulating environment, the international experiences and connections of these architects fostered the development of innovative proposals. The professional practice in 1960s Curitiba thus contrasted with the paulista brutalism as well as utopian Brasilia. Unlike the nationally hegemonic modernist architecture and rationalist urbanism, Curitiba's planners focused on the actual needs of the city, its specific physical context and social milieu.

As early Curitiba's planners also worked as architects I intend to analyse both architectural designs and urban proposals. Publications dedicated to Curitiba's planning history almost not correlate architectural and planning proposals authored by the same architects[3]. I explore a few architectural projects implemented in Curitiba in order to relate them to contemporary ideas in global circulation. By doing this, I argue that shifts from modern to postmodern rationale contributed to the city's present image. Postmodern ideas refer to those proposals whose expressions and design intentions represented a farewell to modernity, which is defined in terms of constant improvement and linear progress. In short, postmodernism escaped from that development logic and rejected the notion of novelty, by re-evaluating old values[4]. As I claim, planners in Curitiba tacitly rejected rationalist proposals, despite their objection to the term postmodernism. Drawing upon original documents, I critically trace the planning history of this world-class city in the broader context of Brazilian planning by examining the early postmodern urbanism implemented in Curitiba.

ENGAGING OPPORTUNITIES

In 1943 Curitiba celebrated the 250th anniversary of its foundation. As part of the celebrations the city was provided with a new, comprehensive town plan prepared by the French urbanist Alfred Agache. His plan established radial axes for urban growth and concentric connections for proposed specialized centres (administrative, sportive, military, polytechnic)[5]. The civic

centre idealized by Agache could only be built a decade later, when the international price of coffee had reached its peak since the beginning of the century. By 1960, coffee production in Paraná state comprised one-third of the world production and half of the Brazilian production[6]. Coffee had been cultivated in northern Paraná since the early 1930s and Curitiba, as its capital city, was profiting from that regional income as well.

By the time the modernist buildings of the civic centre had been planned, Paraná was celebrating the centennial anniversary of its independence from São Paulo (1953). A series of urban projects was then implemented. The favourable economy, the modernization process of the provincial capital and the centennial celebration of the until-recently poor and unnoticed state strengthened a cultural movement in pursuit of a Paraná identity. Local fauna and flora – particularly the Araucaria angustifolia, also known as the Paraná Pine, and its seed – along with some indigenous geometric motifs came to be widely incorporated into contemporary artistic expression and architectural ornamentation.

Stimulated by increasing urban development, a course of architecture and urbanism was created in 1962 at the Federal University of Paraná in Curitiba. A long-established course of civil engineering had been responsible for the formation of professionals engaged in building and town planning. Some of the engineering graduates from this course enrolled on the new architecture and urbanism curriculum – one them was Jaime Lerner. In 1965, São Paulo-based Italian-born architect Jorge Wilheim was hired for the development of a preliminary study for a new town plan, and formed a local team for that task. They proposed the establishment of a local planning institute, which became effective with the creation of the Institute for Research and Town Planning of Curitiba – IPPUC, in 1965. Urban progress and the new academic course attracted young architects from elsewhere, particularly from São Paulo, who joined both the university and the planning institute. These professionals collaborated on numerous proposals submitted to national and international competitions, giving students opportunities to participate. The 1970s was a fruitful period for this team, which became known as the 'group from Paraná'. In varied teams, they were awarded thirty-five prizes and honourable mentions in a single decade.

Brazil had been under a dictatorship since 1964 and the military regime came up with a development plan which was responsible for significant growth rates from 1968 to 1973. During this period known as 'economic miracle' the annual GDP jumped from 9.8% in 1968 to 14% in 1973. In 1968, elections were suspended and mayors and governors were appointed by the central government. After serving as president of the IPPUC in 1968-1969 (while continuing as a professor at the university), the architect, urbanist and civil engineer Jaime Lerner was twice appointed as mayor of Curitiba (1971-1975; 1979-1984) and elected for a third term (1989-1993).

Since 1965, eleven out of fourteen mayors have either been associated with the IPPUC or the city planning activity[7]. The fact that political leaders worked together and in accordance with the Institute's technicians assured continuity and implementation of town planning decisions in Curitiba – an unusual and positive instance in the country's planning history.

GLOBAL INTERACTION AND INDIGENOUS CONTRIBUTIONS

The diffusion of architecture and planning ideas in Curitiba reveals evidence of negotiated imposition, selective adoption and adaptation. It followed the global circulation of people, documents, images and knowledge through the interplay of actors from different geographical contexts and cultural backgrounds, in work experience abroad and at international conferences and courses; during external technical advisory; in contact with world institutions and financing agencies; and via international policies determined by the Global North.

Theory and practice of architecture are largely propelled by what Avermaete and Nuijsink termed 'architectural contact zones', i.e. the social spaces where cultures clash, often in contexts of asymmetrical relations of power; 'following this encounter, architectural ideas bounce back and forth and undergo a process of cultural negotiation and adaptation'[8].

An exemplary case of the cultural encounter involved in the diffusion of architectural and planning ideas is the employment of Jaime Lerner at the Paris office of Georges Candilis, Alex Josic and Shadrach Woods in 1962. Lerner joined the Team 10 members' office at the time they were working on the design of Le Mirail, a satellite town of Toulouse. Lerner 'fell in love with that design'. He also worked on the Fort Lamy project[9].

International mobility meant an influx of new information. The IPPUC experts travelled abroad to attend courses and meetings, engaging with a specialized international audience. It is worth mentioning that an IPPUC staff member attended the Habitat I conference held in Vancouver in 1977 and returned home particularly inspired by the discussions about social housing. But international news also arrived by mail. The IPPUC has maintained a library and subscription to international publications since the early 1970s. International professionals, invited by Jaime Lerner, also travelled to Curitiba, such as the North-American urban designer Allan Jacobs in the late 1980s.

Networking was key to promoting the city abroad and diffusing local planning ideas internationally. During the United Nations Conference on Environment and Development in 1992, while presidents and prime ministers met in Rio de Janeiro, mayors, city officials and urban experts gathered in Curitiba, at the World Urban Forum. The international emergence of Curitiba was also affirmed when the city applied for international financing for implementation of urban projects. The World Bank approved financing for the Curitiba transport system in 1978. Such international encounters were also an opportunity to contribute to the circulation of planning ideas.

Jorge Wilheim, the architect who had led the team responsible for the preliminary study for the new Curitiba plan in 1965, presided over the International Union of Architects (UIA) meeting held in Curitiba in 1972, with attendees from France, Switzerland, Bulgaria, Romania, Hungary, Turkey, Lebanon, URSS, in addition to the IPPUC. Later on, Wilheim was appointed Deputy Secretary-General of the Second United Nations Conference on Human Settlements (Habitat II - 1996). The conference, which was held in Istanbul, exhibited the bi-articulated bus designed in Curitiba, the "Ligeirinho". After that, in the same year the Interamerican Development Bank held a seminar in Washington in which the Curitiba transport experience

was discussed, prompting the Bogotá TransMilenio project. Colombian planners made several subsequent visits to Curitiba. Interestingly, it seems that the term BRT (Bus Rapid Transport) was used when the word Ligeirinho was translated for a group of North-American visitors to the IPPUC. As a consequence, the Los Angeles BRT system recognizes the adaptation of the Curitiba Ligeirinho system[10].

The reports from the United Nations Conferences on Human Settlements (Habitat I -1976, Habitat II – 1996, and Habitat III – 2016)[11] resonated through the Curitiba master plans (1966, 2004 and 2015). Although the 1966 plan was prepared before the Habitat I Conference, it absorbed ideas already in global circulation which anticipated the new paradigm that allied development and sustainability. Not surprisingly Curitiba planning might have reinforced those policies.

Curitiba certainly gained more global visibility after receiving the 1997 World Habitat Award for the project Urban Management in Curitiba - Building Full Citizenship[12]. The prize recognized 'how an imaginative and innovative city planning approach has created a sustainable urban environment and a strong sense of citizenship'[13].

Since 2003 the Brazilian site of the International Training Centres for Local Authorities and Local Actors (CIFAL), a division of the United Nations Institute for Training and Research is based in Curitiba. CIFAL provides training for people involved in local development and it has promoted the interchange of experiences between Curitiba planners and Latin American technician[14]. International cooperation has certainly promoted the influx of new ideas.

Amid globalization and the processes of interaction and negotiation, planning ideas imagined in one specific context have been re-imagined somewhere else. The diffusion of planning ideas in Curitiba has relied on negotiated imposition and voluntary assimilation. In these cases, the local contribution is both theoretical and practical, in varying degrees, with potential potential differences between them[15]. All in all, overlapping territories and intertwined histories imply cultural interdependencies[16]. The global and connected character of the contacts and networking previously described ensures that the planning history of Curitiba cannot but be referred to as a 'connected history'[17].

POSTMODERN REASONING

The large number of urban proposals implemented in Curitiba have been deemed 'attractive, innovative, functional, cost-effective, and replicable'[18]. They were drawn upon the real city, its weaknesses and potentials, and involved public transportation, 'historic and cultural preservation, a revitalized and pedestrian-friendly downtown, effective environmental programs, and a series of urban design and architectural catalyst projects'[19].

A preliminary study for a Curitiba subway was carried out by the IPPUC staff in1969. Different technologies and systems of public mass transportation in more than thirty cities around the globe were analysed, in addition to the solutions implemented in São Paulo and Rio de Janeiro. After this analysis it became clear that, given the local physical, economic

and social conditions, a solution for a Curitiba transport system could not be imported from economically developed societies. Despite its title, the final decision of the Curitiba Subway Preliminary Study did not favour a costly subway system, but rather a light, flexible and expandable transport system, which would integrate the new urban structure of linear axis proposed by the 1966 town plan. Thus, the prototype of the future Bus Rapid Transport (BRT) was initiated, seeking to adapt a bus system to the operational advantages of a subway system[20].

The IPPUC also implemented a new, environmental approach to planning, diverging from the dominant practice of treating urban drainage and sanitation separately. A global and integrated vision of environmental problems led to a project for an urban parks system which jointly addressed urban river flooding and the creation of leisure areas. In the early 1970s, four urban parks were created: Barigui, Barreirinha, São Lourenço and Iguaçu. Within these parks, small dams were built in order to accommodate seasonal flooding. At the São Lourenço Park, an old industrial building was transformed into a cultural centre (Figure 1).

Likewise, in 1971 an old, deactivated Gunpowder Depot built by the Army was transformed into a theatre, due to its circular shape (Figure 2). The IPPUC thus worked to revitalize the past by activating the local memory and valuing the cultural heritage. Curitiba had only a few really relevant buildings in architectural and historical terms and there was a need for affirmative urban symbols. Therefore, the IPPUC became dedicated to the preservation of the city's history and the enhancement of its identity by establishing a Heritage Sites Preservation Plan along with the creation of cultural facilities and the rehabilitation of historic buildings. The Heritage Sites Preservation Plan, proposed by the IPPUC in 1970 and implemented during the Lerner administration (1971-1974) recognized and delimited the historical city centre as cultural heritage, giving prominence to its colonial, eclectic and art-deco buildings, echoing the Venice Charter published in 1964.

The construction of the March 29th Square celebrated the foundation of Curitiba and its design draws on symbolism and a sense of belonging (Figure 3). Jaime Lerner co-authored this project in which an artistic relief on a bare-concrete wall portrays the history of the city through images, words and phrases. In consonance with the postmodernist mass-communication efforts, the figurative work of art depicts the encounter between colonizers and indigenous people, the foundations of the village, the arrival of the immigrants, the economic cycles and their products, the urban progress and its machines, the construction of the cathedral, and contemporary urban life. The Araucária pine and its seeds are also represented. The celebration of Curitiba's history in urban design proposals followed in the footsteps of an earlier similar artistic movement, Paranismo. Since the 1920s, this movement endeavoured to elevate [the image of] Parana relative to other Brazilian states, by promoting its natural features and recounting its indigenous legends. This tribute also encompasses an appreciation for the various immigrant groups established in the city – Germans, Poles, Ukrainians, Italians – and their traditions as well.

Fig. 1. The conception of São Lourenço Park involved environmental planning, heritage and preservation

Fig. 2. The Paiol Theatre recycled an old gunpowder depot, endorsing the value of cultural heritage preservation

Fig. 3. Artistic relief at the March 29th Square recounts the history of the city, fostering the sense of belonging

Fig. 4. The Free University of the Environment was built with traditional construction methods

In his book Urban Acupuncture, Lerner stressed the need for 'maintenance or retrieve of the cultural identity of a place or community'[21]. According to him, 'identity is one of the most important components of quality of life. More than good infrastructure and nice facilities, it is important for people to feel a sense of belonging; I think that is a fundamental component of the Curitiban identity, of the identity of any person in any town'[22].

In the early 1970s the Paraná State Electricity Company was replacing old wooden lamp-posts with new concrete ones. The wooden posts were then recycled and re-used for the construction of buildings in Curitiba's parks – definitely an innovative, post-machine-age, ecological initiative. Ironically, Lerner used to say that in Curitiba what really worked was the 'modern post', thus disdaining the 'post-modern'[23]. One of these buildings is the Free University of the Environment. Designed by Lerner's professional partner, the architect Domingos Bongestabs, in the early 1990s, the environmentally-friendly building draws upon traditional building techniques and materials, and rejects the modernist features that characterized Brazilian architecture throughout the twentieth century (Figure 4).

Praise for the 'heart of the city' and the creation of pedestrian streets were topics of the VIII CIAM, when Candilis was appointed its council member[24]. The 1951 conference proceedings stated that the core of the city should be the 'pedestrian dominion', and this was later reaffirmed in the Preliminary Study for the Curitiba Plan. Relatively subtle revisions to the CIAM doctrine came from within by Sert, Rogers and Tyrwhitt in favour of more pedestrian street life and responsiveness to existing urban contexts[25]. CIAM and Team 10 shared the idea that no boundary could be drawn between architecture and city planning, and that the built environment could be shaped by design. Team 10 retained Sert's emphasis on the pedestrian urban experience, though rejected the concept of the 'heart of the city', as Sert had revived the City Beautiful focus on architecturally designed urban centres[26]. The ideas of Team 10 did not always break radically from those of post-war CIAM, though they generally used a different rhetorical style[27].

The idea of pedestrianizing some central streets in Curitiba was launched by Wilheim's team and implemented by Mayor Lerner. The beginning of the street refurbishment, already relieved of motor car transit, coincided with the UIA meeting in Curitiba in 1972. International delegates praised the initiative, recalling successful European examples. Local newspapers referred to the site as a mix of square and street, garden and avenue[28]. Drawing upon a Portuguese colonial traditional, Curitiba's pedestrian streets were paved with stone mosaics, which depicted stylized figures, particularly the Araucária seed (Figure 5).

To sum up, Curitiba's successful development process counted on international connections as a source of contemporary innovative ideas and it accommodated diverse interests around a single political project. It entailed a massive media dissemination of the new city image[29].

Curitiba's urban design proposals in the 1970s reveal the ideas and themes debated at the time by local professionals, such as ecological thinking, city and urban history, and identity policies[30]. Curitiba's projects reflected the postmodernist turn towards social and the environmental issues. As with other forms of postmodern expression, Curitiba's urban projects drew inspiration from the site, the social context and mass culture. Unlike Brasilia, they clung to

the idea of designing contextually and 'in the vernacular', and managed to re-everything – revitalize, recycle, reuse, renew, etc. – as did the postmodern urbanists[31]. Vernacular design has two main referents: the past (historicism) and the locale or site (regionalism)[32], and both are evident in Curitiba. Regional symbols, conventional features and an infatuation with the past contributed to a valuable sense of place.

In general, though, urbanization and urban problems in 1970s Brazil were the scope of town planning, which then focused on macro analysis, one of a technocratic and deterministic kind. Socioeconomic approaches then prevailed over design and the physical aspects of the urban form. The Seminars on Urban Design (SEDUR) has been considered a milestone of the institutionalization of urban design in mid-1980s Brazil. Its first edition (1984) affirmed the failure of rationalist principles, the importance of design as a fundamental tool for improving urban form – and, thus, the quality of urban life-, and a signal for a new agenda for designing cities, which included issues such as urban preservation, renovation, and transformation[33]. The proposed agenda focused on the existing urban forms, thus abandoning pre-conceived rationalist urban models, and recommended a new approach to public spaces, involving appreciation for local communities. It therefore meant a change in scale and the way the city is perceived in order to intervene in the urban tissue. However, the IPPUC had anticipated and converged with SEDUR's main ideas, despite having not attended the seminar; Lerner, for instance, had advised urban intervention on a small scale and emphasized the architecture of the city.[33]

CONCLUSIONS

The continuity of the IPPUC work through different political administrations, which is rare in Brazil, guaranteed long-term perspective and positive results in Curitiba. Collaborative work is a remarkable characteristic of the architectural and planning proposals developed in that city, which contrasts with Brazilian modernist designs. This was also a factor for the circulation of ideas, in addition to international networking, travel abroad and foreign literature during a period of economic prosperity. Pragmatic actions, short on utopian and dogmatic thought, addressed the real city as a singular cultural artefact. Contextualism (historical, physical, social, and mass cultural), in contrast to modernist urbanism's break from the past and the site, promoted a sense of belonging. Local identity, belonging, cultural memory, revitalization, recycling, and pedestrianization were valued as planning targets, as well as the preservation of the natural surroundings and environmental planning. These topics are largely responsible for the urban environmental quality and sustainable development of Curitiba. Understated criticism of modernist thought and the early reception of certain postmodern ideas, though negating this term, updated and refreshed architecture and urbanism in 1970s Brazil.

Fig. 5. The pedestrianised street was paved with colonial stone mosaic depicting ornamental motifs related to regional features

ENDNOTES

1. Irazábal, "Urban Design," 202; Macedo, "Curitiba;" Macedo, "Planning a Sustainable City;" Ward, "Cities as Planning Models."
2. Zein, "Arquitetos no Paraná," 29; Segawa, "Outro Programa de Passeio," 32
3. See Irazábal, "Urban Design;" Dudeque, *Nenhum Dia;* Macedo, "Curitiba;" Macedo, "Planning a Sustainable City."
4. Vattimo, *O Fim da Modernidade.*
5. "Plano de Urbanização."
6. Cancian, *Cafeicultura Paranaense*.
7. Medeiros, "Idealizações de Cidades," 308-309.
8. Avermaete and Nuijsink, "Architectural Contact Zones," 5.
9. Rego, Januário and Avanci, "Lerner, Friedman, and Candilis-Josic-Woods," 36.
10. Medeiros, "Idealizações de Cidades," 259.
11. Respectively, the Vancouver Declaration on Human Settlements; the Istanbul Declaration on Human Settlements; and the New Urban Agenda.
12. Medeiros, "Idealizações de Cidades," 295.
13. https://world-habitat.org/world-habitat-awards/winners-and-finalists/urban-management-in-curitiba-building-full-citizenship/.
14. Medeiros, "Idealizações de Cidades," 287. Since 2009 CIFAL has worked separately from IPPUC.
15. See Ward, "Re-Examining."
16. Said, *Culture and Imperialism*.
17. Subrahmanyam, "Connected Histories."
18. Irazábal, "Urban Design," 202.
19. Ibid, 202.
20. Viana, "O Plano de Curitiba," 447-449.
21. Lerner, *Acupuntura Urbana,* 13.
22. Faria Junior, "Poty Lazzarotto," 137.
23. Lerner, *O Que É Ser Urbanista*," 61. Remember that Denise Scott Brown also denied being a postmodernist.
24. Mumford, *The CIAM Discourse*, 206.
25. Ibid., 268.
26. Ibid., 254.
27. Ibid., 271.
28. Dudeque, *Nenhum Dia*, 203-232; Vianna, "O Plano de Curitiba," 358.
29. See Irazábal, "Urban Design," 213.
30. See Dudeque, *Nenhum Dia*, 348.
31. Ellin, *Postmodern Urbanism*, 4; Vattimo, *O Fim da Modernidade*.
32. Ellin, *Postmodern Urbanism*, 56.
33. Leme, Rego, Pescatori and Roldan, "Favelas and Urban Design."

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IMAGE SOURCES

Fig. 1. The author, 2020.
Fig. 2. Biblioteca IBGE [ID: 42360].
Fig. 3. The author, 2021.
Fig. 4. The author, 2021.
Fig. 5. Wikicommons.

Atlanta and the Outer Loop
Reconsidering the Unbuilt Environment in Planning History

Carlton Basmajian
Iowa State University

Abstract

As a general rule, planning history focuses on things that exist, or at least did. Almost the entire corpus of the work of planning historians explores plans, projects, infrastructure, politics, objects, and systems that have been brought forth. In other words, we tend to explore plans that succeed in some way or another. Yet, for much of the modern history of city planning, a substantial portion of planned projects have never come to be. This includes a gamut of things: plans, ordinances, transit systems, housing projects, office parks, and shopping malls, among others. If we were to take into consideration these attempted efforts, most cities would appear to have been built atop a vast underworld of ideas. If a substantial portion of the history of planning is actually unbuilt, we come to the question of why we don't more often study the plans that fail? This paper attempts to explore this question. It does so by considering the legacy of a plan for a massive suburban highway (nicknamed the "Outer Loop") in Atlanta, Georgia that was never built. As one of the most endurably automobile oriented metropolitan areas in the world, Atlanta's leaders have long prioritized road building above just about every other form of mobility. The result is a low-density urban space known for the seemingly limitless horizon of its extent. The geographer Charles Rutheiser once described the region as "as a poly nucleated sprawl of sylvan suburbs, slums, and shopping malls." This reputation was not earned overnight, and is perhaps more complicated than it might initially seem. During the heyday of highway building in the United States, in the 1960s, the Georgia Department of Transportation (GDOT) developed elaborate plans for Atlanta's burgeoning highway system. The crown jewel of these plans was a 211-mile-long, limited-access suburban ring road that would encircle the entirety of metropolitan Atlanta. The plan, despite the appeal of its ambition and scope, was initially deemed too big, too expensive, and too difficult. In spite of this perception, or perhaps because of it, the road remained on official GDOT plans and maps for years. From the 1960s on, Atlanta's transportation planners would, for a variety of reasons, periodically resurface the plan. Even as the design of the road changed over time, the problems with its scale and cost remained, and the plan consistently failed to garner enough political support to move from the long-range planning stage into design and construction. It loomed silently in the background, otherwise garnering little public notice. But by the early 1990s, Greater Atlanta had finally reached a level of traffic congestion that prompted a revaluation of GDOT's most ambitious road project. Most importantly, the Outer Loop found a champion

in an ambitious governor who was willing to push the road to the front of his agenda. In doing so, the governor brought the old road plan into public view. Many in the region saw it for the first time. In an apparently bad political miscalculation, the governor's effort to put the plan into motion provoked a vigorous, unexpected backlash. Retreating under the onslaught of a spirited, and diverse, coalition of environmentalists, suburban homeowners, and civil rights activists, the governor was ultimately forced to make an about face and renounce the Outer Loop. He lost his reelection bid just a few months later, the plan for the road becoming a rallying cry for his political opponents, ending the career of a center-left politician with national ambitions. From that moment, the road was removed from official plans. The plan retreated back into the shadows, sinking again into the realm of the unbuilt environment. In most planning histories, a story like this likely would probably not be told. The plan did not result in much of anything, at least officially. The Outer Loop was never built. But this raises the question, should a story like the Outer Loop be told? What are we missing if it is not? And if it is told, what value does the telling hold? The historian Carl Smith posits an interesting response to these kinds of questions. In City Water, City Life, he argued that "a city is as much an infrastructure of ideas as it is a gathering place of people, a layout of streets, an arrangement of buildings, or a collection of political, economic, and social institutions. The infrastructure of ideas neither precedes nor follows the building of a physical and social infrastructure, but is inseparable from them." If we think of plans as the idea of the city, in which societal values are expressed in a complex language of policies and projects, then what is not written, or in this case not built, is an equally important part of the "infrastructure of ideas." This unbuilt world may reveal a more complicated history of a city. This follows, in many ways, Walter Benjamin's suggestion in his Arcades Project that "[o]ur waking existence likewise is a land which, at certain hidden points, leads down into the underworld – a land full of inconspicuous places from which dreams arise." Thus the unbuilt environment might be seen as an important force in shaping the planning process and resulting (built) world. Proceeding from both Benjamin and Smith, this paper argues that telling the stories of unrealized plans provides a portal into a much richer understanding of a city's past. Those stories reveal the hidden sides of what a society or community deems important, and provide clues as to how those values are formed. Unrealized plans are just as much expressions, albeit silent, of what a community values and how that community sees itself. Though unbuilt, Atlanta's Outer Loop, as an example, points to a more robust means of understanding the "infrastructure of ideas," and offers a new perspective on the history of planning.

Keywords

infrastructure, freeways, planning failures, unbuilt, Atlanta

How to cite

Basmajian, Carlton; "Atlanta and the Outer Loop: Reconsidering the Unbuilt Environment in Planning History". In Carola Hein (ed.), *International Planning History Society Proceedings*, 19th IPHS Conference, City-Space-Transformation, TU Delft, 5 - 6 July, 2022, TU Delft Open, 2022.

5 JULY: SESSION 4.5

SOCIAL HOUSING.

Chair: John Pendlebury

Workers housing, the built and unbuilt morphologies

A case study from the Lisbon Region, Portugal

Carlton Basmajian
Iowa State University

Abstract

This presentation focuses on a workers housing estate originally conceived in the 1960s, built by Sacor, an oil refinery placed in a town of the Lisbon Region, Bobadela. In this project, landscape architects acted as planners, articulating housing typologies by architect Jorge Segurado, with an intervention in the preexisting ecosystem. This presentation reviews the key aspects in which the Sacor Estate may inform sustainable planning and design practices, highlighting three particular layers of information: urban process, examination of planning instruments and morphological analysis. Urban process, here proposed as advocated by the architectural historian Spiro Kostof (1991), designates the social, political and institutional conditions that influence or determine the transformation of urban form. Planning and design are obviously paramount to understand the direction and aims of urban processes. Planning instruments in the Portuguese context have transformed greatly since the 1960s, but they have consistently been supported by the opposition between urban and rural land. The FAO Agenda (2019) brings to discussion the importance of local food-production to decrease dependency in agricultural produce from afar, implying the overcoming of such urban-rural schism. Furthermore, mixed land-uses and a balance between household activities and labour are acknowledged as critical factors for urban sustainability (Wiedenhofer et al, 2018). Urban morphology has the potential to inform spatial planning, particularly at the local scale, and currently the two major Portuguese cities (Lisbon and Porto) have Municipal Masterplans based on morphological characteristics (Oliveira, 2006; Marat-Mendes et al, 2020), but emphasis is mostly placed on buildings, neglecting however open spaces. Thus, most urban green spaces are planned for leisure purposes, unable to accommodate the specific demands of spaces with significative food-production (Marat-Mendes et al, 2020). Interestingly, the 1960s plan for the Sacor estate in Bobadela is an example on how to materialize the FAO suggestion, given the relation of its houses with open areas. Here we propose a morphological analysis equating green spaces with built elements. Spaces for food-production are specially emphasized. From such an analysis we extract a set of building/green space typologies. These can be useful for architectural and urban design, but can also be accommodated in Municipal Masterplans. Thus, from the design to the urban process, the Sacor housing estate may provide lessons for the present

and in the future, further illustrating how urban form can impact household labour and promote low-carbon activities, keys to personal well-being and for sustainability (Wiedenhofer et al, 2018).

Keywords

Urban-rural, Urban design, Urban planning, Working-class housing, Sustainability

How to cite

Marat-Mendes, Teresa; del Pino Fernandes, Rui; Cunha Borges, João; "Workers housing, the built and unbuilt morphologies: A case study from the Lisbon Region, Portugal". In Carola Hein (ed.), *International Planning History Society Proceedings*, 19th IPHS Conference, City-Space-Transformation, TU Delft, 5 - 6 July, 2022, TU Delft Open, 2022.

The Portuguese National Laboratory of Civil Engineering and the assemble of an architectural research agenda for the promotion of 1960's-70's Lisbon new residential neighbourhoods

Patrícia D'Almeida, Teresa Marat-Mendes
ISCTE- Instituto Universitário de Lisboa

Abstract

World War II imposed massive urban transformations throughout a number of affected cities, including the provision of new housing, and urban and territorial infrastructures. To support such endeavours, specific research centres were developed by governmental authorities. In Portugal, the National Laboratory for Civil Engineering (Laboratório Nacional de Engenharia Civil, LNEC), directly linked to the Ministry of Public Works, promptly assembled an agenda for architecture and urban scientific research to support the development of housing and urban transformations for the needed Portuguese cities. Thus, from the 1960's and until the fall of the dictatorship in 1974, LNEC played a strategic role in guiding the Portuguese urban transformations, including those of the capital city, Lisbon. At LNEC, a group of architect-researchers promoted the development of new theoretical and methodological research work, while considering the most contemporary societal issues (such as housing shortage). Outside LNEC these architects had the opportunity to put into practice the acquired knowledge in the development of architectural and urban plans for specific residential areas. Research and practice were somehow articulated and promoted at LNEC. Consequently, a number of new neighbourhoods were planned for Lisbon between 1960's and 1970's, benefiting from the research contributions of LNEC researchers, as for example the neighbourhoods of Olivais Sul (1959-1968), Chelas (1961-1966) and Restelo (1970-1984). Most of these areas are today recognized as paradigmatic examples of XX century Portuguese urban planning as well as of domestic architecture. Nevertheless, although their built spaces have been largely documented, the scientific roots that have informed them, but also their contemporary contributions are not sufficiently investigated yet. This presentation aims to identify the research contributions which have guided the urban transformations that occurred in Lisbon between 1960's and 1970s by the hand of the former LNEC's group of architects-researchers.

Patrícia D'Almeida, Teresa Marat-Mendes

The Portuguese National Laboratory of Civil Engineering and the assemble of an architectural research agenda for the promotion of 1960's-70's Lisbon new residential neighbourhoods

Keywords

Urban-rural, Urban design, Urban planning, Working-class housing, Sustainability

How to cite

D'Almeida, Patrícia; Marat-Mendes, Teresa; "The Portuguese National Laboratory of Civil Engineering and the assemble of an architectural research agenda for the promotion of 1960's-70's Lisbon new residential neighbourhoods.". In Carola Hein (ed.), *International Planning History Society Proceedings*, 19th IPHS Conference, City-Space-Transformation, TU Delft, 5 - 6 July, 2022, TU Delft Open, 2022.

Worker housing in Milan, Turin and Genoa before and after the Second World War

Cristina Pallini
Politecnico di Milano

Abstract

World War II imposed massive urban transformations throughout a number of affected cities, including the provision of new housing, and urban and territorial infrastructures. To support such endeavours, specific research centres were developed by governmental authorities. In Portugal, the National Laboratory for Civil Engineering (Laboratório Nacional de Engenharia Civil, LNEC), directly linked to the Ministry of Public Works, promptly assembled an agenda for architecture and urban scientific research to support the development of housing and urban transformations for the needed Portuguese cities. Thus, from the 1960's and until the fall of the dictatorship in 1974, LNEC played a strategic role in guiding the Portuguese urban transformations, including those of the capital city, Lisbon. At LNEC, a group of architect-researchers promoted the development of new theoretical and methodological research work, while considering the most contemporary societal issues (such as housing shortage). Outside LNEC these architects had the opportunity to put into practice the acquired knowledge in the development of architectural and urban plans for specific residential areas. Research and practice were somehow articulated and promoted at LNEC. Consequently, a number of new neighbourhoods were planned for Lisbon between 1960's and 1970's, benefiting from the research contributions of LNEC researchers, as for example the neighbourhoods of Olivais Sul (1959-1968), Chelas (1961-1966) and Restelo (1970-1984). Most of these areas are today recognized as paradigmatic examples of XX century Portuguese urban planning as well as of domestic architecture. Nevertheless, although their built spaces have been largely documented, the scientific roots that have informed them, but also their contemporary contributions are not sufficiently investigated yet. This presentation aims to identify the research contributions which have guided the urban transformations that occurred in Lisbon between 1960's and 1970s by the hand of the former LNEC's group of architects-researchers.

Keywords

Urban-rural, Urban design, Urban planning, Working-class housing, Sustainability

How to cite

D'Almeida, Patrícia; Marat-Mendes, Teresa; "The Portuguese National Laboratory of Civil Engineering

and the assemble of an architectural research agenda for the promotion of 1960's-70's Lisbon new residential neighbourhoods.". In Carola Hein (ed.), *International Planning History Society Proceedings*, 19th IPHS Conference, City-Space-Transformation, TU Delft, 5 - 6 July, 2022, TU Delft Open, 2022.

The Heritage of British Welfare State Housing and its Legacies

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Abstract

In Britain, the 'modern planning project' developed during the course of the twentieth century, but it was after the Second World War that it became fully accepted that planning, and the regulation of building and land use, should be a legitimate activity of the state. At the same historical moment, housing was considered an integral part of the newly constructed Welfare State, alongside health, education and economic measures concerning employment, pensions and safety nets for unemployment. Decent housing was, for a period, considered as an integral part of providing a decent and fair foundation for all lives. Indeed, for more than a decade after the War across much of the country, planning became largely synonymous with housing as vast efforts were made to clear slums and create new, decent housing. The majority of this new housing constructed during the 1950s-70s was modernist in form, often high rise and constructed using new techniques in materials such as concrete. In practice, the new housing created was not always decent. Technical flaws, poor design leading to alienating environments in which crime flourished, and exacerbated by the social disruption of breaking up existing communities in the rehousing project, housing of this period was quickly – and unselectively – demonised. Critics bundled together issues of poor construction, poor management and maintenance with environmentally deterministic arguments, claiming such design approaches were inherently flawed, into a deeper ideological critique of the Welfare State and the state as housing provider. Firmly established by the 1980s as part of the rise of right-wing politics, by the 2000s a broadly negative view of the council housing of this era had gained significant traction and consensus across the political spectrum. However, already by this time, some post-war Welfare State housing was being 'listed' for its heritage value. At the same time, as the new century has developed, it is clear that the country has a new housing crisis, with major problems in terms of the quality of some of the new housing being developed, linked to major issues of affordability, both in the purchase and rental markets. There is thus some irony in seeing social housing of the 1950s-70s, once demonised, rehabilitated as heritage. This paper will reflect on these issues. Specifically, social housing as heritage reminds us of a different set of possibilities for housing – that it is possible to aspire to use the best architects and planners to build housing with the highest aspirations for all in society promoting equality of opportunity. Furthermore, social housing as heritage, as well as reminding us what can be achieved, also perhaps gives the possibility in the contemporary world to imagine and enable better outcomes for residents than has become the norm. More immediately perhaps, historic

conservation of social housing is increasingly being used as a defence against displacement and the loss of social housing in contexts of gentrification. Taking forward those ideas, this paper will look at a range of British examples, before focusing more directly on the Byker Estate, Newcastle upon Tyne.

Keywords

Heritage, Housing, Welfare State, Planning legacy, Transformation

How to cite

Pendlebury, John; While, Aidan; "The Heritage of British Welfare State Housing and its Legacies". In Carola Hein (ed.), *International Planning History Society Proceedings*, 19th IPHS Conference, City-Space-Transformation, TU Delft, 5 - 6 July, 2022, TU Delft Open, 2022.

China's socialist past vs social values

The case for conserving post-1949 workers housing and commune heritage

Yiwen Wang
Xi'an Jiaotong-Liverpool University

Abstract

The rise of value-based approaches to heritage conservation since the 1990s has promoted reflections on the ways we appreciate the relics of the recent past. Values ascribed by local communities and stakeholder groups to historical sites have begun to influence the decision of heritage authorities on protection and the approaches adopted by conservation professionals. Though often subordinated to intrinsic values certified by material remains and objective attributes (such as age and rarity), extrinsic values derived from subjective judgements (such as communal values) have risen markedly in importance over the past decades. Among various types of extrinsic values, social values arguably best epitomise the subjective nature of heritage as they exclusively derive from people's attachment to a place. Social values are the meanings and significance that a place acquires because people relate to it through shared experiences and associated events over time. Physical remains of the place might not necessarily have any intrinsic values but serve as a reference point for people to claim their identity, a repository for collective memories and a carrier for forging a sense of community. The distinct yet subservient role of social value in heritage designation, or the subjective and capricious nature of it, has become increasingly apparent when several advanced countries in West Europe began to include inter-war and post-war social housing on their national heritage inventory in the 1990s. In China, a recent surge in conferring heritage status to social housing has prompted a reappraisal of the socialist legacies bequeathed by the Chinese Communist Party. On the local level, such trend began in the mid-2000s, as evidenced by the listing of Caoyang New Village, Shanghai (for model workers), Qingshan Red Houses, Wuhan (for state-owned steel plant workers) built in the 1950s and several 1960s Commune Apartment Blocks in Beijing. Following these local-level listing, two housing estates were upgraded to the heritage of national importance – Caoyang New Village was listed on China's first batch of 20th-century heritage nomination (98 properties) in 2016 and Baiwanzhoung in Beijing (for government officials) on the second list (100 properties) in the following year. What does the listing of these housing estates mean? How do they represent China's socialist past in the early decades following the establishment of the People's Re-

public of China in 1949? This paper reviews the socio-political background that spawned the construction of these housing compounds and examines how the various heritage values ascribed to these places have played out in the decisions on listing and subsequent conservation approaches. It argues that China's progressive view on revolution under the banner of socialism since the 1950s and its distinctive top-down approaches to heritage management have precluded the possibility of stakeholder groups on both national and local levels to ascribe social values to these housing heritages.

Keywords

workers housing, socialist state, housing heritage, social values

How to cite

Pendlebury, John; While, Aidan; "The Heritage of British Welfare State Housing and its Legacies". In Carola Hein (ed.), *International Planning History Society Proceedings*, 19th IPHS Conference, City-Space-Transformation, TU Delft, 5 - 6 July, 2022, TU Delft Open, 2022.

6 JULY: SESSION 1.1

URBAN ANALYSIS.

Chair: Christine Garnaut

Study on the Urban Conservation by the Sectors of Houses and Villas in the City of Paris and its Suburban Area

Kumi Eguchi
Kyushu University

Abstract

The Sectors of Houses and Villas (HV sector) in the City of Paris and Montrouge, the suburban city of Paris, are determined by the Local Plan of Urbanism (PLU) based on the SRU Law of 2000 to maintain a favourable residential environment. The purpose of this study was to provide an overview of the HV sector and examine its effectiveness. In comparison with existing historic environment conservation schemes, in terms of conservation approach, the HV sector takes a sustainable approach to maintaining the form and layout of existing buildings through local provisions, such as maximum building area. In the case of the SL Sector, Villa Daviel in Paris, when development pressure increased in the 1990s in the block where the SL sector was located, building restriction zones and height restrictions were established in the block where residential areas were located, based on consensus with the inhabitants, to conserve the entire block. When the transition from POS to PLU was made, height restrictions were set with a view to sustainable form conservation, and easements were established.

Keywords

Sectors of Houses and Villas, PLU, City of Paris, City of Montrouge

How to cite

Eguchi, Kumi; "Study on the Urban Conservation by the Sectors of Houses and Villas in the City of Paris and its Suburban Area". In Carola Hein (ed.), *International Planning History Society Proceedings*, 19th IPHS Conference, City-Space-Transformation, TU Delft, 5 - 6 July, 2022, TU Delft Open, 2022.

DOI: 10.7480/iphs.2022.1.6466

INTRODUCTION

France is a leading country in historical environmental conservation, with a long history and diverse development of conservation methods. According to Eguchi,[1] the main methods are the Historic Monument (MH) system under the Law of 31 December 1913, the Protection Sector (SS) district under the Law of 4 August 1962, and the Area of Valorisation of Architecture and Heritage (AVAP) system under the Law of 12 July 2010. One system that is currently attracting attention is the Sector of Houses and Villas (HV Sector). This system was established in statutory urban planning as the Local Plan of Urbanism (PLU) under the Law of 13 December 2000 (Law on Urban Solidarity and Renewal, SRU). The HV sector is a system that conserves a good living environment based on history. This sector exists under the name SL Sector (Sector of Houses and Villas) in the City of Paris[2] and Umv Sector in the City of Montrouge.[3] The effectiveness of the HV sector is highly regarded. For example, the Square of Docteur Blanche District, conserved by the SL Sector in the 16th arrondissement of the City of Paris, includes the La Roche-Jeanneret residence built by Le Corbusier in 1923–1925.[4] The house is designated as MH and was listed as a UNESCO World Heritage Site in 2016. The proposal document by Fondation Le Corbusier et al. for the World Heritage Listing also highly praises the surrounding residential environment, which is well conserved by the SL sector, thus: 'Thus, the Square of Docteur Blanche, in which the constituent element of the property is located, is subject to special protection as a "sector of houses and villas"'.

However, research on the HV sector has not advanced sufficiently. As for the SL sector in Paris, Eguchi[5] researched the Villa Daviel. In addition, the UL zone under the statutory urban planning Land Use Plan (POS) under the Law of 30 December 1967 (Land Orientation Law, LOF), the predecessor of the PLU, is being considered by the Parisian Urbanism Workshop (APUR) .[6] Regarding PLU, Gaudron discusses the PLU and environmental assessment, while Hocreitère et al. discuss the specific uses of the PLU and Kumazawa discusses consensus-making with inhabitants' associations in Montreuil. However, no study has focused on the HV sector or examined the full scope of the HV sector and the effectiveness of its institutions.[7]

Therefore, the purpose of this study is to provide an overview of the HV sector and examine its effectiveness.

1.MATERIALS & METHODS

This study focuses on the SL sector in the City of Paris and the Umv sector in the City of Montrouge as the HV sector. As a case study, I will also focus on a typical SL sector, the Villa Daviel, in the 13th Arrondissement of Paris. Villa Daviel is a typical example of the HV sector and was designated as a UL zone in the POS after it was built in 1912. The zone was then taken over by the SL sector in the PLU, and today it remains one of the best conserved low-rise residential areas in Paris. The Villa Daviel case study should provide insight into the typical process and effectiveness regarding the HV sector.

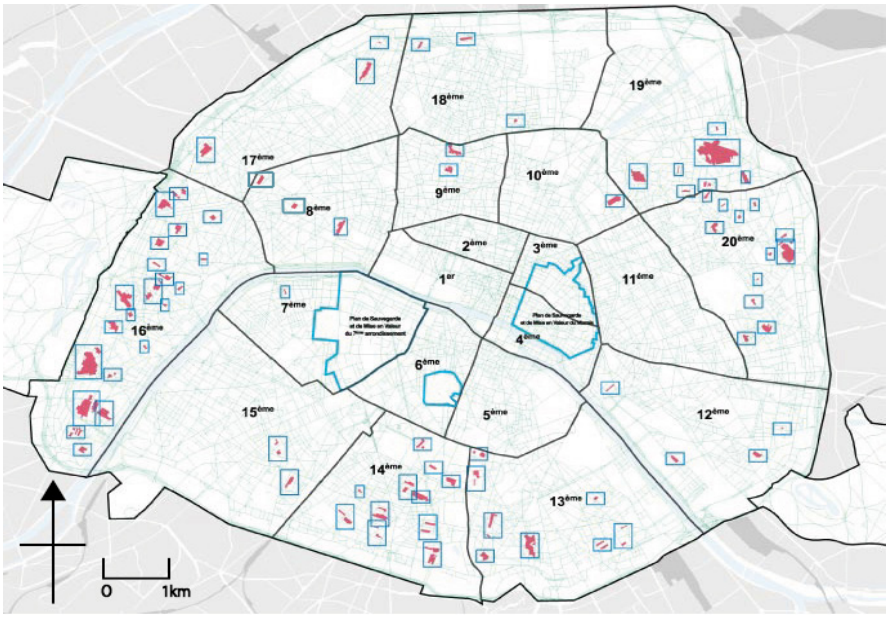

Fig. 1. Distribution map of SL Sectors in the City of Paris, modified by author. SL Sectors exist outside the centre of Paris, from the 7th to 12th Arrondissements.

Arrondissement	7	8	9	10	12	13	14	15	16	17	18	19	20
Number of Sectors	1	3	3	1	4	18	21	6	40	3	3	8	18

Table 1. Number of Sectors in the City of Paris.

The research methodology will be to identify the rules and origins of the HV sector in the cities of Paris and Montrouge through administrative documents and compare them with existing historical environmental conservation systems to determine the importance and characteristics of the HV sector system. I then identify how the HV sector works effectively in the Villa Daviel area of the City of Paris, the case study area. Specifically, administrative documents were used to identify the historical evolution of the regulations related to the Villa Daviel area and examine their effectiveness.

2.OUTLINE OF THE HV SECTORS

2.1. OVERVIEW AND ORIGINS OF THE SL SECTORS IN THE CITY OF PARIS

According to the City of Paris,[8] there are currently 129 SL sectors in Paris (Figure 1). The arrondissement with the most sectors is the 16th Arrondissement, which has 40 sectors (Table 1).

The SL sectors are included in the UG zone (General Urban Zone) category in the PLU of Paris, according to the City of Paris.[9] The UG zone covers most of Paris and is defined by a master plan, the Planning and Sustainable Development (PADD) plan. Further, in the UG zone there exist 'implemented measures aimed at ensuring the diversity of urban functions, developing the social mix of housing, and preserving urban forms and the heritage of Parisian history while allowing contemporary architectural expression'.

The SL sectors are 'sectors of old housing estates, hamlets, villas, or houses whose urban forms are protected from their homogeneity and specificity in the Parisian landscape for their homogeneity and their singularity in the landscape of the constituted Parisian fabrics'. The SL Sectors are 'primarily for residential use' and their development is 'generally framed by specific written rules (notably prohibited destinations in article UG.1) and by localized prescriptions based on articles L.151-19 and L.151-23, paragraph of the Urbanism Code (mainly Maximum Building Areas and Free Spaces to be Greened)'(Table 2).[10, 11] As for regulations in the SL sectors, Article UG.1.2 states that 'Buildings intended for industry, crafts, warehouses, and offices are prohibited'. As a special provision for individual sectors, Article UG.9.2 stipulates that in the SL. 16-31 Villa de Montmorency in the 16th Arrondissement, 'On any plot of land with a surface area of more than 300 m^2 , the building footprint may not exceed 1/3 of this area', and in the SL.17-04 Villa des Ternes in the 17th Arrondissement, 'On any plot of land, the surface area of buildings may not exceed 30% of the surface area not covered by prescriptions for Open spaces to be greened (E.L.V.) or Spaces to be freed (E.A.L.)'. 'Notably prohibited destinations in article UG.1' means, according to Article UG.1.1, mainly 'Buildings and installations, as well as miscellaneous works of any kind'. 'The graphic prescriptions' applicable to the sectors are listed in 'the atlas of detailed plans'. In the PLU of 2011, the sectors are described as 'not subject to the C.O.S. (Floor area ratio) or density destination rules'; however, this wording has now been removed.

The UL Zone, the predecessor of the SL Sector, was described thus: 'this zone includes more than a few hamlets, villas, and housing estates whose integrity and character must be preserved'. In this zone, 'the buildings are, in principle, reserved for the bourgeoisie, except for special provisions', and 'the quality of materials and the architectural design of buildings or mansions should confirm and enhance this residential character' .

Article	Title	Contents
UG.1.2	Special provisions applicable in certain sectors : - Sectors of Houses and Villas (S.L.)	Buildings intended for industry, crafts, warehouses and offices are prohibited
UG.9.2	Special provisions applicable in certain sectors : Sector of Houses and villas SL. 16-31 (Villa de Montmorency) :	On any plot of land with a surface area of more than 300 m2 , the building footprint may not exceed 1/3 of this area.
	Sector of Houses and villas SL.17-04 (Villa des Ternes) :	On any plot of land, the surface area of buildings may not exceed 30% of the surface area not covered by prescriptions for Open spaces to be greened (E.L.V.) or Spaces to be freed (E.A.L.).

Table 1. Distribution map of SL Sectors in the City of Paris, modified by author. SL Sectors exist outside the centre of Paris, from the 7th to 12th Arrondissements.

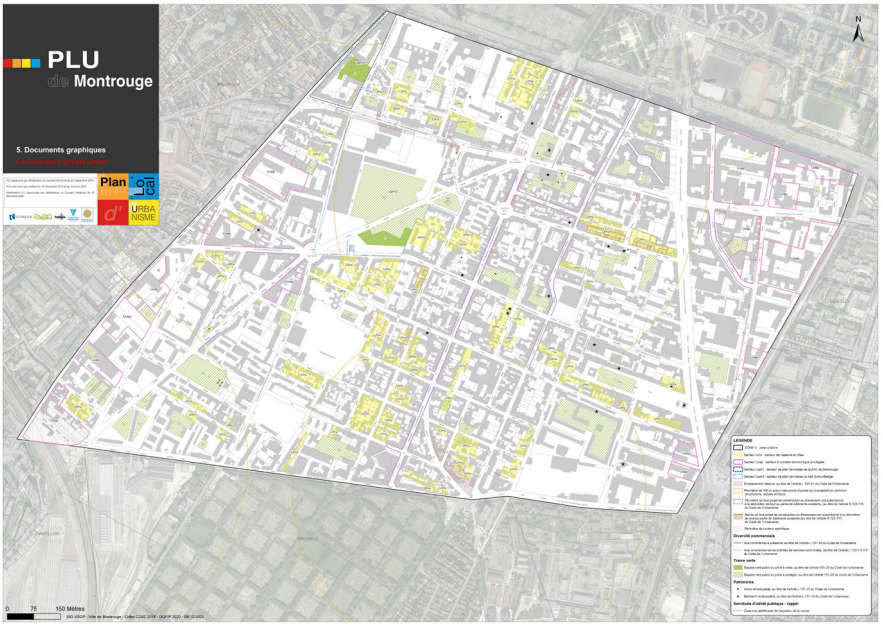

Fig. 2. Articles concerning SL Sectors in the City of Paris.

2.2. OVERVIEW AND ORIGINS OF THE UMV SECTORS IN THE CITY OF MONTROUGE

According to the city of Montrouge,[12] the Umv sectors (houses and villas) are included in the U Zone (Urban Zone) category in Montrouge, with 73 sectors (Figure 2). The Umv sectors are defined as 'sectors of houses and villas for which the morphological characteristics should be reinforced' and, as stated in the PADD, 'This responds to the general objective of preserving the diversity of urban forms, legible at all scales and characteristic of Montrouge's identity' (Table 3).[13, 14] The U zone covers the entire city and includes four sectors: the Umv sector, as well as the Uvep (Privileged Economic Vocation) sector, the Upm1 (Plan of Mass -ZAC of Porte de Montrouge) sector, and the Upm2 (Plan of Mass—Schlumberger Site) sector. The Umv sector occupies an area of 14.2 ha, approximately 6.9 percent of the U zone.

Zone and Sector	Area
U Zone	206.6ha
Umv Sector	14.2ha
Uvep Sector	16.5ha
Upm1 Sector	2.2ha
Upm2 Sector	11.1ha

Table 3. Table of Area of Zone and Sectors in the City of Montrouge.

Article	Title	Contents
U1.3	Prohibited Occupations and Land Uses in the Umv Sector only	a) In addition to the provisions of article U1.1, constructions (except annexes, outdoor swimming pools, terraces and garages) for purposes other than housing are prohibited. b) In addition to the provisions of article U1.1, outside the constructible thickness, constructions other than those authorised in article U2.3 are prohibited.
U2.3	Occupations and Land Uses Subject to Special Conditions, in the Umv Sector only	In addition to the provisions of article U2.1, the provisions of article U2.2 d) apply to the Umv sector.
U6.1.2	In the Umv Sector only (siting of buildings in relation to public rights of way and public or private roads)	In addition to the provisions of article U6.1.1, in the case of demolition of existing constructions, the new constructions may keep the layout of the demolished constructions.
U7.1.3	Special Provisions: Authorised Setbacks (siting of buildings in relation to separating boundaries)	b) In the Umv sector, frontage setbacks are allowed. In this case, the setback shall be : - minimum 3 m in case of facades or parts of facades without openings, - minimum 6 m in case of facades or parts of facades with opening(s).
U9.1.2	In the Umv Sector only (Footprint)	a) The footprint of the constructions shall not exceed 100m². Open air swimming pools, annexes and terraces with a height lower than 20cm are not taken into account in this calculation of the footprint. b) The extension built beyond the demolition strip, in the perimeters mentioned in article U2.5, may exceed the maximum footprint of constructions defined in article U9.1.2 a), and this in the conditions of surface established by article U2.5.
U10.1.2	In the Umv Sector only (Height)	a) In addition to the provisions of article U10.1.1 a) and in replacement of article U10.1.1 b): the maximum height of constructions shall be equal to 11m at the ridge in case of sloping roof and 10m at the acroterion in case of flat roof. b) The elevation built beyond the demolition strip, in the perimeters mentioned in article U2.5, may exceed the maximum height of the constructions defined in article U10.1.2a) within the limit of one level, in addition to the provisions of article U10.1.1 a) and in replacement of article U10.1.1 b), and under the conditions of surface established by article U2.5.
U12.1.3	Methods of Application of Parking Standards in the Umv Sector only	In replacement of the provisions of article U12.1.2, the parking areas shall be primarily made underground on all or part of the lot, or failing that, on the ground floor in the volume of the construction. However, surface parking is authorized, within the limit of one parking space.
U12.5	Parking Standards for Bicycles, in the Umv Sector only	In addition to the provisions of article U12.3, the space intended for bicycle parking shall be easily accessible and may be covered or built in the open air.
U13.2	Open Spaces	b) In the Umv sector, 100% of the surface of the plots and parts of plots free of construction shall be treated as open-air green space, excluding from the calculation the open-air swimming pools, their technical premises, the terraces associated with the dwelling, the annexes and the parking space authorised in the open air in article U12.1.3.

Table 4. Table of Articles concerning Umv Sectors in the City of Montrouge.

Regarding the regulatory provisions in the Umv sectors, Article U1.3 regulates land use and prohibits buildings 'for purposes other than housing' (Table 4). This is 'to mark the residential specificity'. Article U6.1.2 also states that, 'in the case of demolition of existing buildings, new buildings may retain the layout of the demolished buildings'. This is intended 'to conserve the harmony of urban forms in these predominantly individual housing areas', 'which will allow the preservation of well-constituted private spaces'. In addition, according to Article U7.1.3, frontage setbacks are permitted, and according to Article U9.1.2, the building area should not exceed 100 m². In addition, in accordance with Article U10.1.2, 'the maximum height of the construction is equal to 11m at the ridge in the case of a pitched roof and 10m at the acroterion in the case of a flat roof'. This 'correspond[s] to the typology of the existing buildings within these sectors, i.e. one- or two-storey houses with possibly attic space'. In addition, Article U12.1.3 provides that 'parking areas should preferably be built underground on all or part of the plot, or failing that, on the ground floor within the building's volume'.

U12.5 provides that bicycle parking spaces should 'be easily accessible and may be covered or in the open air'. For open space, Article U13.2 requires that '100% of the surface area of plots and parts of plots free of construction will be treated as open green space' except for outdoor swimming pools, etc.

Scheme	MH	SS	AVAP	HV Sector
The First Law	Law of 30 March 1887	Law of August 4, 1962	Law of January 7, 1983	Law of December 30, 1967 (LOF)
Predecessor Scheme	MH by the Law of December 31, 1913		ZPPAU, ZPPAUP	ULSector(Paris), UEa and b Sector(Montrouge) onPOS
Current Legal System and Framework	Heritage Code of February 20, 2004	SPR by Heritage Code of February 20, 2004(Law of LCAP)		SL Sector in UG Zone(Paris) and Umv Sector in U Zone (Montrouge) on PLU by Urbanism Code (Law of December 13, 2000 (SRU))
Object	Buildings whose conservation is of public interest from the point of view of history or art are classified as historic monuments in whole or in part by the administrative authority (Article L.621-1) Buildings or parts of public or private buildings which, without justifying an immediate request for classification as historic monuments, are of sufficient historical or artistic interest to make their preservation desirable, may, at any time, be registered, by decision of the administrative authority, as historic monuments (Article L.621-25) Buildings or groups of buildings which form a coherent whole with a historic monument or which are likely to contribute to its conservation or enhancement are protected as part of the surrounding area. The protection under the title of the approaches applies to any building, built or not built, located in a perimeter delimited by the administrative authority under the conditions fixed in article L. 621-31.(Article L.621-30)	Towns, villages or districts whose conservation, restoration, rehabilitation or enhancement is of public interest from a historical, architectural, archaeological, artistic or landscape point of view are classified as remarkable heritage sites. Rural areas and landscapes which form a coherent whole with these towns, villages or districts or which are likely to contribute to their conservation or enhancement may be classified under the same heading. (Article L631-1)		Sectors of old housing estates, hamlets, villas or houses whose urban forms are protected for their homogeneity and their singularity in the landscape of the constituted Parisian fabrics(Paris) Sectors of houses and villas for which the morphological characteristics should be reinforced(Montrouge)
Designator	The building belonging to any person other than those listed in Articles L. 621-4 and L. 621-5 is classified as a historic monument by decision of the administrative authority, after the opinion of the National Commission for Heritage and Architecture, if the owner consents (Article L.621-6) Buildings or parts of public or private buildings which, without justifying a request for immediate classification as historic monuments, are of sufficient historical or artistic interest to make their preservation desirable may, at any time, be registered, by decision of the administrative authority, as historic monuments (Article L.621-25). The delimited perimeter of the surroundings provided for in the first paragraph of II of Article L. 621-30 is created by decision of the administrative authority, on the proposal of the Architect of Buildings of France or of the competent authority in matters of the local town planning plan, of the document in lieu thereof or of the communal map, after a public enquiry, consultation of the owner or the state assignee of the historic monument and, where applicable, of the municipality(ies) concerned. (Article L.621-31)	Remarkable heritage sites are classified by decision of the Minister of Culture, after an opinion from the National Commission for Heritage and Architecture and a public enquiry conducted by the administrative authority, on the basis of a proposal or after the agreement of the competent authority in terms of the local town planning plan, the document in place of the local town planning plan or the communal map and, where applicable, consultation of the commune or communes concerned. (Article L631-2)		City
Administrator	Administrative authority	ABF		City
Conservation Methods	A building classified as a historic monument may not be destroyed or moved, even in part, nor may it be the subject of any restoration, repair or modification work, without the authorisation of the administrative authority. (Article L.621-9) Work likely to modify the external aspect of a building, built or not built, protected under the title of the approaches are subjected to a preliminary authorization (Article L.621-32).	PSMV (Plan of Safeguard and Enhancement) is created under the control of the national government (Regional Cultural Office - DRAC) or PVAP (Plan for the Promotion of Architecture and Heritage) is created under the authority of the local authorities for the SPR. A local commission is established for the preparation process and also for the implementation. Any modification in the SPR must be authorised in advance by the ABF.		Parmi de constuire issued by the City Generally framed by specific written rules (notably prohibited destinations in article UG.1) and by localized prescriptions based on article L.151-19 and L.151-23 paragraph of the Urbanism Code (mainly Maximum Building Areas and Free Spaces to be Greened)(Paris) Constructions (except annexes, outdoor swimming pools, terraces and garages) with destination other than housing are prohibited.(U1.3) In case of demolitions of existing constructions, new constructions may keep the layout of demolished constructions.(U6.1.2) The recesses of facade are authorized.(U.7.1.3) The footprint of constructions shall not exceed 100m2.(U9.1.2)(Montrouge)

Table 5. Comparison of Historic Environment Conservation Schemes.(Corresponding parts are highlighted.)

The predecessors of the Umv sectors were the UEa and UEb sectors in the POS, which corresponded to suburban sectors. When taking over from the POS, two were deleted and 'about fifteen have been added or enlarged'. Zoning also considers the configuration of the land, the type of buildings, and the potential for densification around public transport projects'. The Umv sector was named 'Sectors of Houses and Villas' in the PLU approved in 2007.

3. COMPARISON WITH EXISTING HISTORIC ENVIRONMENT CONSERVATION SYSTEMS

Compared to existing historic environment conservation systems, MH targets buildings and their surroundings (Table 5)[15]. That is, the classification is for 'Buildings whose preservation

is of public interest from the point of view of history or art' and the registration is for 'Buildings or parts of public or private buildings which, without justifying an immediate request for classification as historic monuments, are of sufficient historical or artistic interest to make their preservation desirable', and 'Buildings or groups of buildings which form a coherent whole with a historic monument or which are likely to contribute to its conservation or enhancement are protected as part of the surrounding area', that is, 'Towns, villages or districts whose conservation, restoration, rehabilitation or enhancement is of public interest from a historical, architectural, archaeological, artistic or landscape point of view' and 'Rural areas and landscapes which form a coherent whole with these towns, villages or districts or which are likely to contribute to their conservation or enhancement'. SS and AVAP are integrated into the SPR (Remarkable Heritage Site) by the Law of 7 July 2016 (Law on the Freedom of Creation, Architecture and Heritage, LCAP), which covers towns, villages, districts, rural areas, and landscapes. The HV sectors, on the other hand, target houses and villas,[16, 17] and are 'Sectors of old housing estates, hamlets, villas, or houses whose urban forms are protected for their homogeneity and their singularity in the landscape of the constituted Parisian fabrics' in the City of Paris and are 'Sectors of houses and villas for which the morphological characteristics should be reinforced' in the City of Montrouge.

As for the designator for MH, the administrative authority is responsible for the classification and registration of buildings and surroundings, while the Minister of Culture is responsible for SPR, and the HV sector is classified by the city. As for the administrator, MH is managed by the administrative authority, SPR is managed by the Architect of Buildings of France (ABF), and the HV sector is managed by the city.

Fig. 3. Near Villa Daviel No. 8

Regarding preservation methods, MH states that 'A building classified as a historic monument may not be destroyed or moved, even in part, nor may it be the subject of any restoration, repair, or modification work, without the authorisation of the administrative authority'.[18] For the SPR, 'PSMV (Plan of Protection and Enhancement) or PVAP (Plan for the Promotion of Architecture and Heritage) is created'[19] and 'Any work carried out on buildings or non-buildings in the SPR must be authorised in advance by the ABF'. Meanwhile, for the HV sectors, the City of Paris has 'localised prescriptions (mainly maximum building areas and free spaces to be greened)'. In the City of Montrouge, the regulations state that 'Constructions with destination other than housing are prohibited', 'In case of demolitions of existing constructions, new constructions may keep the layout of demolished constructions', 'The recesses of facade are authorized', and 'The footprint of constructions shall not exceed 100m^2.'

4. CASE STUDY: VILLA DAVIEL IN PARIS

4.1. OVERVIEW AND HISTORY OF VILLA DAVIEL

Villa Daviel (Figure 3) is a neighbourhood composed of houses with gardens located in the Butte-aux-Cailles district of the 13th Arrondissement in the south of Paris, which has 'a picturesque streetscape unmatched in Paris, formed by low-rise buildings and plantings'.[20] This area is designated as the SL sector in the Paris PLU under the 2000 SRU Law (Figure 4) and has a green, low-rise residential landscape.

Villa Daviel is a cul-de-sac street that was opened in 1912. The street is 113 m long and 6 m wide.[21] The road is lined with houses separated by a shared wall and can be identified with house numbers up to 30. Each house has a small or rear garden.

Villa Daviel was called 'a small cottage' at the time of its construction in 1912–1913.[22] Referring to the specifications by architect Tavernier at the time for No. 8, a typical one, the use of clay-limestone bricks and decoration is specified for the two-storey façade, including a half basement.

4.2. FROM THE CONSTRUCTION OF VILLA DAVIEL TO THE MODIFICATION OF THE POS

After the construction of the Villa Daviel in 1912, the city of Paris established a general statutory urban planning POS in 1977 to conserve the specificity of the Butte-aux-Cailles District (Table 6). Subsequently, the 1989 revision divided the district into the UL, UCc, and UM zones.[23] The UCc sector has a height limit of 18 m with 'land use coefficients that determine low densities' for the core of the district, and 'The regulation of the UCc sector is specific to "la Butte-aux-Cailles" and aims to preserve its character'. The UL zone corresponded to la villa Daviel and la cité du Moulin-Vert. The area around Villa Daviel is designated as a UM zone 'which covers most of the outlying districts of Paris', with a relatively high density of housing, shops, and activities prioritised as 'relativement importantes'. Thus, for example, Nos. 31–43, Vergniaud Street, 'which would most

often deserve to be attached to the UCc sector according to their village characteristics', was noted. Therefore, 'the UM zone does not guarantee the evolution of the urban fabric in accordance with the specific morphological characteristics of the Butte-aux-Cailles.'

Therefore, on 26 April 1990 the Paris City Council approved the targets of the district's POS modifications and set up the study area.[24] With regard to the UL zone of Villa Daviel, it was noted that 'the perimeters are well adapted to the protection of the villas in the area. The extension of this zone to the houses located on the upper part of No. 22 Barrault Street, which was considered at one time, did not appear to be realistic because of the superimposition of this complex on a commercial garage of several levels'. With regard to the UM zone, it was noted that 'the plots of land at Nos. 31–43 Vergniaud street which is subject to an alignment and for which it is proposed, in addition, taking into account the characteristics of the building, to introduce a limitation of the vertical height of the facades to 12 m (instead of 18 m currently)'. Subsequently, from 23 September to 26 October 1991 a public questionnaire was conducted by the city of Paris on the POS modifications in the Butte-aux-Cailles District.[25]

An opinion was submitted on 22 October 1991 by the inhabitants' association 'Association for the Preservation and Enhancement of the Villa Daviel and its Surroundings' in response to this public questionnaire,[26] urging that it '1) include the entire Daviel block, bounded by Daviel, Vergniaud, Tolbiac, and Barrault Streets, in the study area', and requesting '2) to include the whole of this plot in the UCc sector, the Daviel villa remaining in the UL zone'.[27]

In a subsequent letter from the Paris City Planning Department to the Assistant Director of the Mayor's Office on 2 March 1992, the following proposal was also presented: 'However, in order to avoid the construction of excessively high buildings, which would be authorised by the width of Vergniaud Street, the modification of the POS currently underway has provided for an orange net to limit the vertical height of the buildings to 12 metres on these plots of land, so as not to create a recessed effect on the Villa Daviel, which is currently not very pronounced due to the steep slope of Daviel Street…to respond to the concern of the inhabitants of the Villa Daviel to protect the character of the place, I intend to introduce, on the occasion of the revision of the POS of Paris, the creation of a non aedificandi margin on the properties bordering the Villa Daviel and the inclusion in the UL zone of the Villa Daviel of plots Nos. 5 and 11 Daviel Street, built with low-rise houses'. In response to the opinion of the inhabitants' association, the Commission's Executive Officer in charge of the Public Questionnaire stated on 26 November 1991 that 'Given the very different configuration of the parcels making up the Daviel block and, moreover, the very large parcel occupied by the National Superior School of Telecommunications, which does not have the characteristics of the Butte aux Cailles District, the classification of this block in the UCc sector seems difficult to accept'. In response to this opinion, the City of Paris Urban Development Department responded to the Mayor's Office, 'we propose to study a more localised modification of the POS, consisting in imposing a non aedificandi margin on the properties bordering the Villa Daviel, which would ensure a less brutal confrontation with the surrounding urban fabric'.

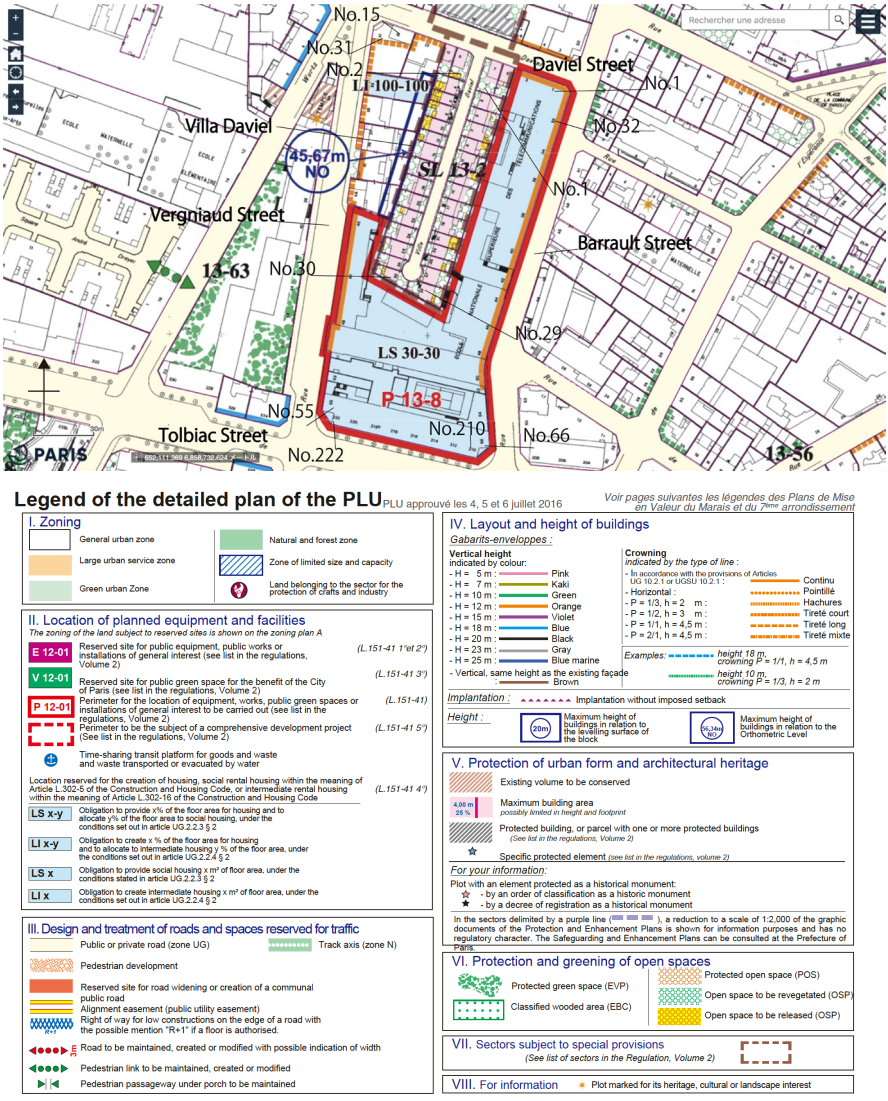

Fig. 4. Villa Daviel in the SL Sector in the PLU

Event	Period	Subject				Matter
		City of Paris, Paris Urban Development Department, Paris City Council and APUR	Villa Daviel Inhabitants	13th Arrondissement	Others	
From the Construction of Villa Daviel to the First Revision of the POS	1912		Construction of Villa Daviel			Construction of Villa Daviel
	1977	Installation of the POS in the Butte-aux-Cailles district by the City of Paris				Installation of the POS in the Butte-aux-Cailles district by the City of Paris
	24 Aug - 12 Sept 1983	Construction permission from the Mayor of Paris for the renovation of the roof at No.30 Villa Daviel			Application for construction permit by architect Voyer Généra	Construction permit for renovation of roof at Villa Daviel No.30
	20 November 1989	The first revision of the POS by the City of Paris				Modification of the POS
Pre-survey of the Second Revision of the POS	12 December 1989 - 12 February 1990	APUR's preliminary pre-amendment survey of POS in the Butte-aux-Cailles district				APUR's preliminary pre-amendment survey of POS in the Butte-aux-Cailles district
	26 April 1990	Paris City Council approves targets for POS modifications in the Butte-aux-Cailles district and establishes study areas				Paris City Council approves targets for POS modifications in the Butte-aux-Cailles district and establishes study areas
	23 September - 26 October 1991	Public Questionnaire by the City of Paris on POS modifications in the Butte-aux-Cailles district				Public Questionnaire by the City of Paris on POS modifications in the Butte-aux-Cailles district
	22 October 1991		Submission of written comments on POS revisions in relation to Villa Daviel			Submission of written comments on POS revisions in relation to Villa Daviel by the inhabitants' association
	26 November 1991				Opinion of the Commission's Executive Officer rejecting the opinion of the inhabitants' association	Opinion of the Commission's Executive Officer rejecting the opinion of the inhabitants' association
Second Revision of the POS	29 Jan - 2 Mar 1992	Letter from Alain Greilsty Bosviel, Urban Development Department, City of Paris, to Jacques Toubon, Director of the 13th arrondissement, Paris, Richard Hutin, Technical Adviser, Office of the Mayor and Anne Cuille, Assistant Director, Office of the Mayor, Relations with Local Councillors Letter from Anne Cuille, Assistant Director, Office of the Mayor, to the Director, Urban Development Department			Letter from Councillor Gisèle Moreau to the Mayor of Paris following a petition by the Inhabitants Association	Coordination between the City of Paris Urban Development Department, City Councillors and the Office of the Mayor of Paris on POS amendments in relation to Villa Daviel
	16 June 1992	Preparation of the Public Questionnaire in September on the POS modifications related to Villa Daviel by Alain Greilsty Bosviel, Paris Urban Development Department				Preparation of a Public Questionnaire in September by the City of Paris Urban Development Department on POS amendments in relation to Villa Daviel
	7 September 1992			Response from the Director of the 13th arrondissement of the City of Paris to the Urban Development Department of the City of Paris regarding POS revisions in relation to Villa Daviel	Response from the Director of the 13th arrondissement of the City of Paris to the Urban Planning Development of the City of Paris regarding POS amendments in relation to Villa Daviel	Response from the Director of the 13th arrondissement of the City of Paris to the Urban Planning Development of the City of Paris regarding POS amendments in relation to Villa Daviel
	15 September - 17 October and 19 November - 19 December 1992	Public questionnaire by the City of Paris on POS modifications in relation to Villa Daviel				Public Questionnaire on POS modifications related to Villa Daviel
	18 Jan - 25 May 1993	Opinion of the City of Paris Urban Planning Department to the 13th arrondissement director regarding POS revisions in the vicinity of Villa Daviel Report from the Paris Urban Development Department to the Director of Finance and Economy and the Deputy Director of Finance		Opinion by J. Toubon, 13th Arrondissement Director	Report by Investigator Briquet (dated 18 January 1993)	Coordination between the POS amendment study conducted by the Paris Urban Development Department and the heads of the 13 arrondissements in relation to Villa Daviel
	17-20 September 1993	Reports, discussions and decisions at Paris City Council meetings on POS revisions in relation to Villa Daviel				Reports, discussions and decisions at Paris City Council meetings on POS revisions in relation to Villa Daviel
	13 December 2000				Enforcement of the SRU Law	Enforcement of the SRU Law
Transition from the POS to the PLU	30 May - 13 July 2005			Public Questionnaire of 13th Arrondissement on the transition from the POS to the PLU		Public Questionnaire of 13th Arrondissement on the transition from the POS to the PLU
	10 July 2005		Association's opinion letter to the Chairperson of the Public Questionnaire Committee			Association's opinion letter to the Chairperson of the Public Questionnaire Committee
	25 Nov 2005	Analysis of the Paris Urban Planning Department's comments on the Public Questionnaire				Analysis of the Paris Urban Planning Department's comments on the Public Questionnaire
	12-13 June 2006	Approval of PLU in the 13th arrondissement by the Paris City Council				Approval of PLUs in the 13th arrondissement by the Paris City Council

Table 6. Timeline from the Construction of Villa Daviel to the Installation of the PLU. (Corresponding parts are highlighted.)

Therefore, a second public questionnaire was to be conducted from 19 November to 19 December 1992 to amend the POS in relation to Villa Daviel and establish a non aedificandi zone at Nos. 3–13 Daviel Street, Nos. 33–49 Vergniaud Street, and Nos. 32–48 Barrault Street.[28] On 20 November a written opinion was submitted by the inhabitants' association, which was interpreted by APUR as a largely private opinion.[29] The inhabitants' association proposed: 'Extension of the UL zone to the plots located at the corner of Daviel street and Vergniaud street. Reduction to 12 m of the vertical height of the constructions at the level of No. 45-47-49 Verg-

niaud street. Widening of the new Non Aedificandi zone to 6 m instead of 5. Respect for the levelling of the land parcel, even in the case of reparcelling. A small park, open during school holidays, on part of the grounds of the National Superior School of Telecommunications.' On 20 September 1993 the Paris City Council approved an amendment to the POS (see Figure 5).[30] The revision was entitled 'the change of configuration of the UL zone entitled "villa Daviel" by extension on plots No.5 and 11, Daviel street; the creation of a non aedificandi zone, No.3, Daviel street, No.32 to 48, Barrault street, No.45 to 49, Verginaud street ; the creation of a non altius tollendi zone, No.13, Daviel street, No.33 to 43, Verginaud street; the inscription of an envelope gauge of vertical height 12.00 metres located at No.45 to 49, Verginaud street and No.32 to 50, Barrault street'. The opinion of the inhabitants' association was adopted in the proposal to reduce the height of the building at Nos. 45–49 Vergniaud Street to 12m.

4.3. TRANSITION FROM THE POS TO THE PLU

With the implementation of the SRU Law of 2000, POS was to be replaced by the PLU, and a Public Questionnaire of the 13th Arrondissement on the transition from the POS to the PLU was held from 30 May to 13 July 2005. With regard to Villa Daviel, on 10 July the inhabitants' association submitted an opinion letter to the Chairman of the Public Preliminary Investigation Committee, head of the 4th Arrondissement.[31] It proposed the following for Villa Daviel: 'We therefore request that the project be revised to take into account the state of the site and to avoid harming the harmony of the Villa as a whole, visible from the street, by retaining the following provisions:- limiting the height of the facades to 10 metres (and not 7 as planned), or, at the very least, maintaining the vertical heights of the existing facades.- limiting the roofs to H3 P1/2 (instead of H2 P1/3 as planned)' and for the surroundings of Villa Daviel 'the non aedificandi or non altius tollendi easement zones of 5 metres in width in the 1993 amended POS be reinstated in the draft PLU'.

In response to this proposal, the City of Paris Urban Planning Department and others stated that, with regard to the maximum height of the buildings, 'A green net (10.00m vertical) would encourage these houses to be raised by one square storey, which would lead to a break in the sewer line without ultimately guaranteeing the unity of this ensemble'[32] and that 'It is therefore appropriate to retain the 7m vertical in the adopted PLU to preserve the streetscape.' 'It would indeed be desirable to adapt the coping shown in the PLU decree to make it more in keeping with the volumetry of the existing roofs.' With regard to the request to maintain the non aedificandi and non altius tollendi easements listed in the POS/PLU, it is also noted that 'For legal reasons, these easements were not included in the revision of the PLU. The provisions of articles 7 and 11 of the PLU make it possible to oppose projects that would affect either the habitability of the existing constructions of the Villa, or that would not be in harmony with the built environment.'. As a result, the PLU and SL sectors were determined, as shown in Figure 4.

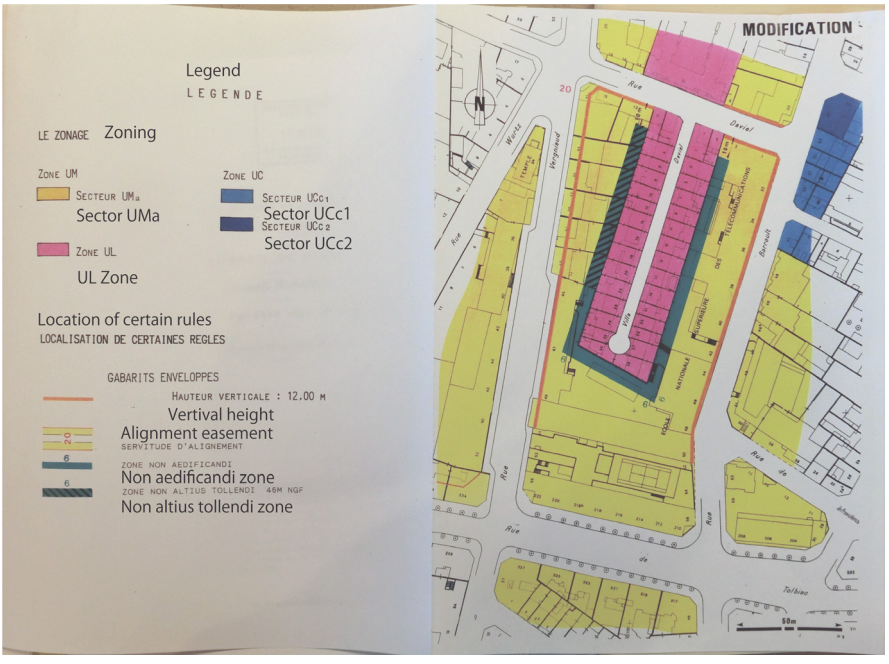

Fig. 5. Villa Daviel in Modified POS

5.CONCLUSIONS

The HV sector is a history-based system for conserving good living conditions established in PLUs.

In comparison with existing historic environment conservation schemes, in terms of conservation approach, for MH and SPR, the conservation approach is based on permits for demolition and renovation of objects, whereas the HV sector has a sustainable approach to maintaining the form and layout of existing buildings through local provisions, such as maximum building area.

As for the case study of the SL Sector, Villa Daviel in Paris, an attempt was made to apply the UL zone in the POS to a low-rise residential area built in an integrated manner in the early 1900s to provide morphological conservation. When development pressure increased in the 1990s in the block where the SL sector was located, building restriction zones and height restrictions were established in the block where residential areas were located, based on consensus with the inhabitants, to conserve the entire block. When the transition from POS to PLU was made in 2005, height restrictions were set with a view to sustainable urban form conservation in a way that does not break the sewer line, and easements were established to the extent that they did not damage the existing environment. From the above, it is evident that the SL sector is an effective method to sustainably conserve low-rise residential areas in Paris.

ACKNOWLEDGEMENTS

This work was supported by JSPS KAKENHI (grant number 18K04511).

DISCLOSURE STATEMENT

No potential conflict of interest was reported by the author.

NOTES ON CONTRIBUTOR(S)

Kumi Eguchi is a project assistant professor at the Institute of Decision Science for a Sustainable Society, Kyushu University, and a researcher at Kyushu Open University. Her thesis work at the University of Tokyo focused on the conservation of the historic environment by the Commission or Old Paris from the 1890s to the 1930s. She joined the laboratory of Professor Philippe Bonnin at CNRS LAVUE AUS as a French government scholarship holder (2011–2012). She returned to Japan in 2013, where she joined a laboratory at Kyoto University, School of Human and Environmental Studies, as a JSPS Research Fellow.

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IMAGE SOURCES

Fig. 1 "Atlas des plans de détail - Secteurs de Maisons et Villas" Plan Local d'Urbanisme, Mairie de Paris, last modified June 26, 2014, http://pluenligne.paris.fr/plu/sites-plu/site_statique_34/pages/page_715.html.

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Fig. 5 Ville de Paris, Direction de l'aménagement urbain sous direction de l'environnement et de la réglementation, Changement de configuration de la UL intitulée "villa Daviel" (Paris: Ville de Paris, Direction de l'aménagement urbain sous direction de l'environnement et de la réglementation, 1993). Modified by the author.

The Formation Process and Changes in Patients' Housing in Nagashima-Aiseien

the First National Sanatorium in Japan

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Abstract

Hansen's disease sanatoria were constructed worldwide from the 19th century to the beginning of the 20th century. In Japan, 13 national sanatoria still exist. Although these facilities are still regarded as Hansen's disease sanatoria, their function has shifted from being a treatment facility to being a nursing facility for elderly people without a family or hometown. Hansen's disease is a chronic infection characterized by a wide range of symptoms depending on the progress of the disease. People with mild symptoms can live their daily lives, while other patients need help due to blindness or paralysis of the hands and feet. Additionally, the age of onset varies from children to adults. Through these facilities, people could live most of their daily lives without having to rely on the world outside of the sanatorium. A sanatorium was like a village where patients of different ages and with various symptoms lived together. This study examined the process of transition from the "villages" for isolated patients to the final abode of the elderly in terms of the formation process of patient housing.

Keywords

Hansen's Disease Sanatoria, Community development, Patients' Housing, Transformation of the living environment, Nagashima-Aiseien

How to cite

Pakr, Minjeong; Otsuki, Toshio; "The Formation Process and Changes in Patients' Housing in Nagashima-Aiseien". In Carola Hein (ed.), *International Planning History Society Proceedings*, 19th IPHS Conference, City-Space-Transformation, TU Delft, 5 - 6 July, 2022, TU Delft Open, 2022.

DOI: 10.7480/iphs.2022.1.6478

INTRODUCTION

Hansen's disease[1] is a chronic infection characterized by a wide range of symptoms depending on the progress of the disease. Some people have mild symptoms and can live their daily lives to those, while others need help due to blindness or paralysis of the hands and feet. It is now curable, but when Hansen's disease was still an incurable disease, it was considered necessary to isolate patients from society to prevent the spread of infection. In Japan, 13 public sanatoria were established throughout the country since 1909. Unlike ordinary medical facilities, Hansen's disease sanatoria were like villages, including large residential complexes, schools, supermarkets, barbershops, farms, entertainment facilities, religious facilities, and so on.

Focusing on these characteristics of Hansen's disease sanatoria, this study examines the transition of Hansen's disease sanatoria created as "villages" for patients in terms of the formation process of patient housing. These sanitoria remained the final residence for some patients, even after isolation became unnecessary. There are 1,001 residents with an average age of about 87.0 as of May 2021 lived in thirteen national sanatoria Japan. The subject of this study is Nagashima-Aiseien, the first national sanatorium for Hansen's disease in Japan. In fact, there were five more sanatoria established before Nagashima-Aiseien.[2] All of them were established as public sanatoria and were later transferred to the national government. Although public sanatoria have a longer history, their main purpose at the time of establishment was to protect wandering patients rather than to isolate them.[3] Meanwhile, the Nagashima-Aiseien facility was originally planned to isolate patients for the rest of their lives. Thus, Nagashima-Aiseien was considered a more appropriate case to examine.

Research on Hansen's disease in Japan is often based on the delay in the abolition of isolation policy compared to other countries[4] and the awareness of prejudice and discrimination against Hansen's disease patients. Studies on the establishment and enforcement of laws on isolation from political and hygienic perspective and studies focusing on how patients confronted coercive and protracted isolation policies are the mainstream. The study of sanatorium itself, which is separated from the disease, was laid the foundation by Sakaino[5]. The development process of sanatoria, which focuses on the changes in the facility composition and expansion has been examined. Additional functions, facilities, and site expansion processes have been analyzed as a result of the transition from the protection of wandering patients to forced isolation of all patients, and characteristics of sanatoria are summarized according to the time and location of its foundation.

Meanwhile, the study of patients' housing was conducted sporadically for each sanatorium. Many of them are based on interviews with residents and former patients, because of access restriction to the documents of sanatoria, therefore it is difficult to compare them because the survey items are biased by each case. The cases have been reported in just 5 out of 13 sanatoria: Nagashima-Aiseien[6], Kusatsu-Rakusenen[7], Hoshizuka-Keiaien[8], Oku-Komyoen[9], and Okinawa-Airakuen[10]. The research method of these previous studies is interview. Although the interview survey has limitations that depend on the interviewee's experience and memory, it is possible to conduct an in-depth investigation. Thus, the living environment by age group and

family composition, such as floor plan, residential behavior, number of residents per room, household tools was revealed in detail. This study attempts to investigate the universality and objectivity of the results revealed in previous studies in the entire history of sanatorium.

METHODS

Interviews have become the mainstream research method when investigating Hansen's disease sanatoria for several reasons, such as restricted access to materials, or the unorganized or unknown presence of materials. In this study, with the cooperation of Nagashima-Aiseien, new primary data including maintenance-related administrative documents were collected and investigated. Based on the collected data, this study aimed to clarify the overall picture of the sanatorium according to the transition of the facilities in terms of facility management rather than from the residents' view, a new perspective relative to the existing research.

Data collection was conducted between 2017 and 2021. The data on the location, layout, year of construction, residents, renovation, and demolition of all patients' housing in Nagashima-Aiseien were collected. The collected data include publications such as annual reports, commemorative magazines, and residents' journals, as well as documents related to the residents' council, architectural drawings, and photo albums stored by the facility management department. Among them, the documents stored by the facility management department were the new primary materials mentioned above. It includes documents prepared by Home Ministry, administrative documents such as *National Property Register, Survey of Land and Buildings, and Application form of facility maintenance cost*, as well as construction order documents, blueprints, and site plans. The main contents are as shown in **Table 1**.

To understand the transition of sanatoria as "villages" rather than medical facilities, the history of all patients' houses was investigated, and the supply and maintenance processes of the houses were organized in chronological order. Based on the results, an analysis was conducted on the order of the development of the residential area in Aiseien and the regional characteristics of each area in terms of physical planning.

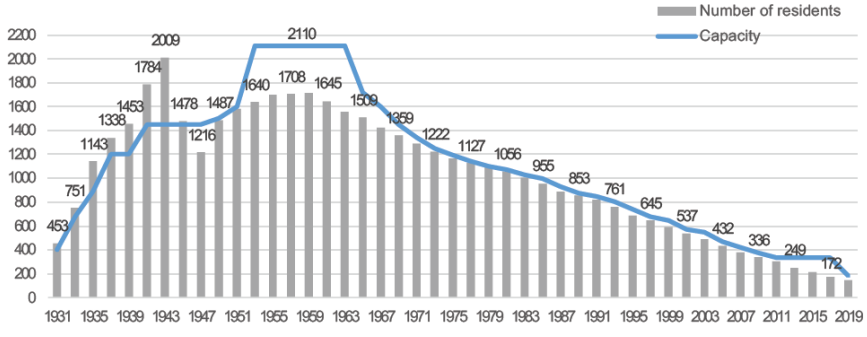

Fig. 1. Changes in the Number of Residents and Capacity of Nagashima-Aiseien. Source: Population transition statistics by Nagashima-Aiseien Welfare Division

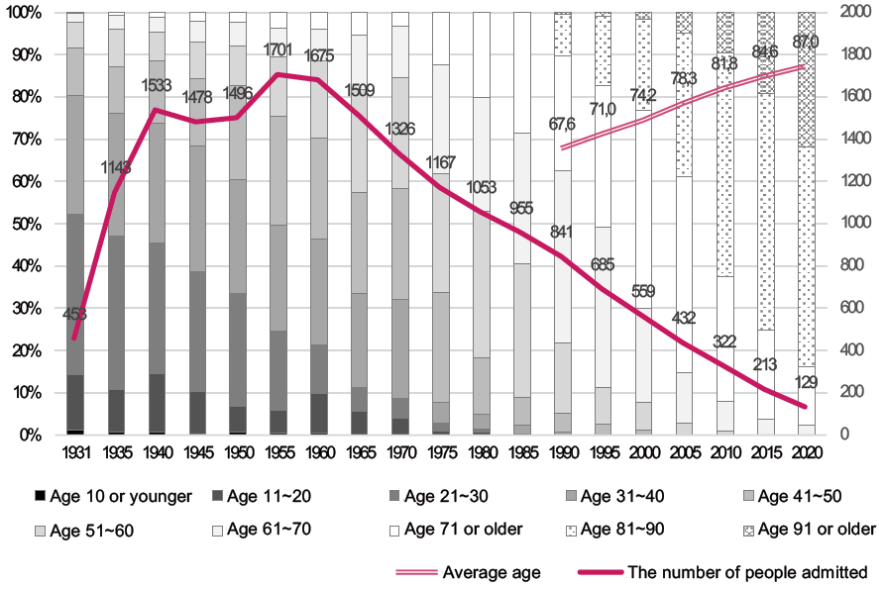

Fig. 2. Inter quintennial Changes in number of inmates and age composition in Nagashima-Aiseien. Source: Demographic from the welfare division of Nagashima-Aiseien

OVERVIEW OF NAGASHIMA-AISEIEN

Nagashima-Aiseien, the first national Hansen's disease sanatorium, opened in 1930. Nagashima is a small island located in *Setonaikai.* It used to be a remote island, but a bridge was built in 1988 that connects it by land. The area of the sanatorium is about 250ha. It has 125 residents with an average age of about 87.4 as of May 2021.[11]

Since Hansen's disease was considered incurable when the sanatorium was established, patients were not expected to be discharged after treatment like a general medical facility, so it was built as a facility to house residents for the full lifetimes. In addition, patients of various ages and with various symptoms live together. The facility contains not only wards but also houses for healthy residents who do not need hospitalization. The sanatorium includes public baths, grocery stores, a post office, religious facilities, schools, fruit farms, barns for livestock, factories, entertainment facilities, and so on.

Japan enacted a public health policy related to Hansen's disease in 1907.[12] At first, the requirement of isolation was limited to wandering patients. However, after 1929, *The Campaign for Leprosy Free Prefectures*[13] began, which led to a rapid increase in the isolation of patients with Hansen's disease. The government decided to establish national sanatoria to accommodate patients from all parts of Japan. As **Figure 1** shows, from its opening to 1950.

Fig. 3. Arial photograph of Nagashima-Aiseien in 2016. Source: Arial photograph No. CCG20162X-C3-21, Geospatial Information Authority of Japan

Nagashima-Aiseien was always over capacity, except for a period after World War II. Therefore, securing housing for patients was always the biggest issue.

Hansen's disease was often transmitted and developed in childhood, and the age group of patients was widely distributed. **Figure 2** shows the trends in the number and age structure of the patients at Nagashima-Aiseien. In the early 1930s, 80% of residents were in their 30s or younger, but in the 1960s, it decreased to less than 50% and disappeared in the late 1990s. As new infections were suppressed, the average age of residents gradually increased as there was no inflow of new patients and childbirth was not allowed in sanatorium. Since the 1950s, when treatment drugs were widely used, recovery progressed mainly among young people, and the aging of the sanatorium's population accelerated. According to **Figure 2**, about 40% of those aged 60 or over in 1975 dropped to about 50% in 1980.

The main living area of the sanatorium is shown in **Figure 3**. Most of the buildings are the houses in which residents live. Generally, a single house building consists of 4 to 6 units, and more than 70% of them are now vacant.[14] **Figure 4** shows the residential area of Nagashima-Aiseien in more detail according to the period and type of housing maintenance. Sanatoria were previously broadly divided into two areas: the patient area and staff area to prevent infection. Area J, which is surrounded by dotted lines, was the staff area and the other areas A~I were the patient areas. Patients were restricted from entering the staff area.

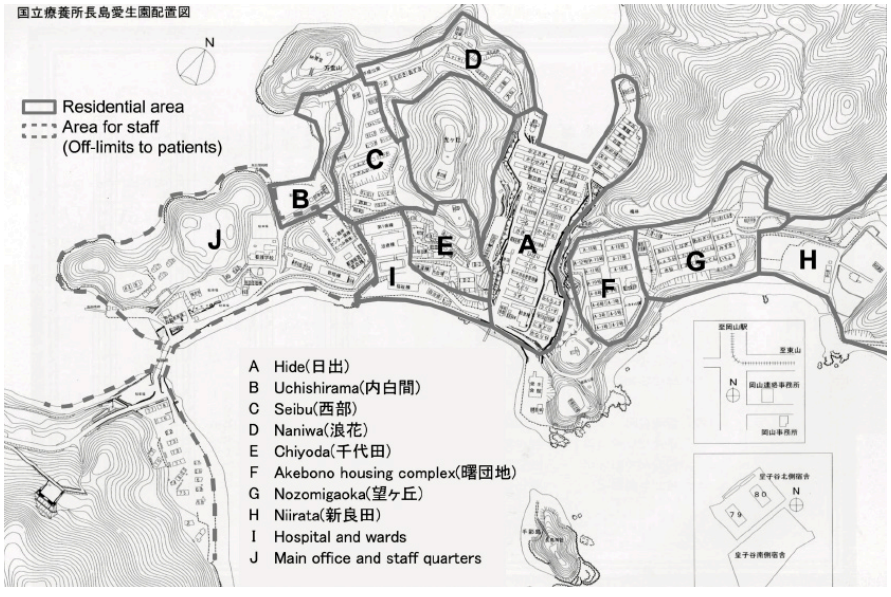

Fig. 4. Area map of Nagashima-Aiseien. Created by editing Site Plan of Nagashima-Aiseien in 2010 published in The 80th Anniversary. of Nagashima-Aiseien(2011)

CHANGES IN THE NUMBER OF PATIENTS HOUSED

Nagashima-Aiseien exceeded its capacity since its opening until the early 1950s, except during the period immediately after World War II. Therefore, securing housing for residents was always the biggest challenge.

Figure 5 shows the results[15] of a survey of the number of demolitions of residential buildings and trends in construction activities every 10 years.[16] The first decade saw the biggest change. At the time of opening, the facility contained 16 houses, which increased to 135 immediately. Though housing supply was temporarily cut off in the 1940s due to the war, the number of houses continued to increase until the 1950s. The number of residential buildings peaked in 1953 and then moved from supply to management. In the 1960s, one noticeable change is the beginning of demolition and reconstruction. New houses named after former ones were built on the sites of demolished buildings. In addition to reconstructing houses with the same name on the same site, construction was carried out to dismantle neighboring houses and build new larger houses. Since the 1990s, the number of construction projects decreased significantly. By this time, housing maintenance was completed. Since then, there has been no significant change in the total number of houses, except for a gradual decrease.

Based on above, this study will examine the housing maintenance process in Nagashima-Aiseien in three periods: Housing supply period(1930s-1950s), Aging housing maintenance period(1960s-1980s), and Housing reduction period(1990s-2010s).

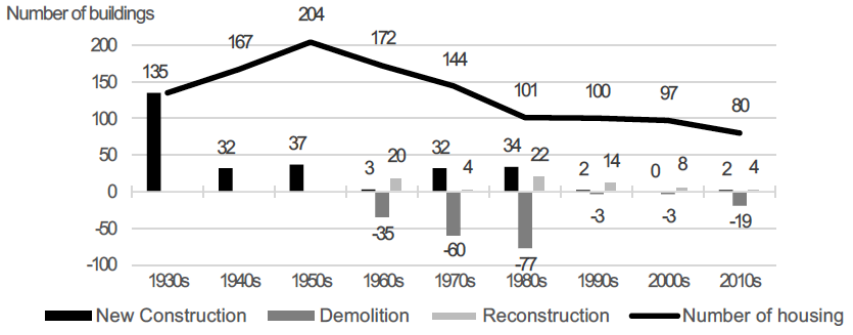

Fig. 5. Inter decennial changes in housing construction, demolition, and reconstruction in Nagashima-Aiseien.

DEVELOPMENT STATUS OF RESIDENTIAL AREAS AND CHANGES IN HOUSING TYPES

HOUSING SUPPLY PERIOD (1930S-1950S)

At the time of its opening, Nagashima-Aiseien consisted of area J(*Main office and staff quarters*) for the office functions of the sanatorium and staff offices, as well as A(*Hide*), B(*Uchishirama*), and I(*Hospital and wards*). Most of the residents lived in A(*Hide*). As the number of residents increased, new housing sites were gradually developed around I(Hospital and wards) and A(Hide) at the center of the village. For geographical reasons, certain scale flatland was difficult to secure, so small-scale houses were built dispersed in several places.

In general, the residential areas are gradually developing from the center to the suburbs; however, in Nagashima-Aiseien, it did not necessarily develop sequentially from the center. From tracking the construction history of houses, it seems that the order of development was determined by the geographical conditions of each area and the functions placed there. In addition, houses were not built all at once, but were gradually developed according to the sanatorium's needs.

Figure 6 depicts the site plan, showing the houses built between 1930 and 1953 and plotted by construction year. It was created based on the name of each house, construction year, and location from the annual reports and *Survey of land and buildings*.

At first, houses were built in A(*Hide*) and B(*Uchishirama*), the originally planned residential area, then E(*Chiyoda*) was developed, which is close to I(*Hospital and wards*) with good access. However, the next place, H(*Niirata*) and Irara Farm, are far from A(*Hide*) and E(*Chiyoda*). During 1934 to 1935, the next houses were constructed in G(*Nozomigaoka*), where it was difficult to travel to and from the central area represented by I(*Hospital and wards*) and A(*Hide*). Insufficient food is considered a significant reason. As the name indicates, Irara

Farm had farms and orchards and needed houses for workers. In H(*Niirata*), there were pigsties and chicken houses to raise livestock in addition to farms. Meanwhile, *Aisei Gakuen* was built in G(*Nozomigaoka*) as a place for elementary and junior –high school students in the park to learn. No records were found regarding the location selection of *Aisei Gakuen*, but it is considered that the large site was needed for a school ground, so it was sited away from the central area.

Thereafter, the residential area spread from E(*Chiyoda*) to C(*Seibu*) and the vacant site on the north side of A(*Hide*). Furthermore, the residential area spread to D(*Naniwa*) through a steep climb. Due to the influence of World War II, new housing supplies were temporarily suspended, but construction began again in 1951. By that time, the vacant sites had disappeared in central areas such as A(*Hide*), E(*Chiyoda*), C(*Seibu*), and D(*Naniwa*). Large-scale development was carried out in suburban areas such as G(*Nozomigaoka*), H(*Niirata*), and B(*Uchishirama*).

AGING HOUSING MAINTENANCE PERIOD (1960S-1980S)

The supply of new housing was settled until the 1950s, and the number of houses has been decreasing since the 1960s, as **Figure 5** shows. **Figure 7** illustrates the changes in building layout every decade from 1960 to 2010. Observing changes in patients' housing, houses built earlier in A*(Hide)*, B*(Uchishirama),* and C*(Seibu)* disappeared between 1960 and 1970.

Fig. 6. Distribution map of patients' housing by construction year in Nagashima-Aiseien. Created by editing Site plan of Nagashima-Aiseien in 1953 stored by Nagashima-Aiseien.

Over the next decade, the decrease in the number of houses and changes in building layout were identified in A(*Hide*) and C(*Seibu*). Old houses were demolished and replaced with new ones. On the other hand, some houses were demolished without reconstruction. In G(*Nozomigaoka*), because of the characteristics of the area in which boys and girls lived, vacant houses naturally occurred as no one was admitted around that age. Vacant houses were temporarily used for married couples and for singles in the early 1970s, but as housing maintenance proceeded throughout the sanatorium, the old buildings were demolished.

In this period, there was another big change besides reconstruction. In 1976, a large-scale landslide disaster occurred due to a typhoon. Patients' houses were also severely damaged by flooding and collapsed. The reconstruction plan was developed at F(*Akebono Housing Complex*) and G (*Nozomigaoka*), a little west of their original sites. F(*Akebono Housing Complex*) where used to be mountainous area was cut down to raise the ground level of damaged area from flood where used be the playground of Aisei Gakuen. Construction of F(*Akebono Housing Complex*) was completed in 1978, and the new housing complex in G(*Nozomigaoka*) was gradually vdeveloped between 1983 and 1988. The site plan of 1990 shows a decrease in the number and density of houses, resulting from the demolition of old houses without residents and the relocation of patients to the new housing complex in G (*Nozomigaoka*).

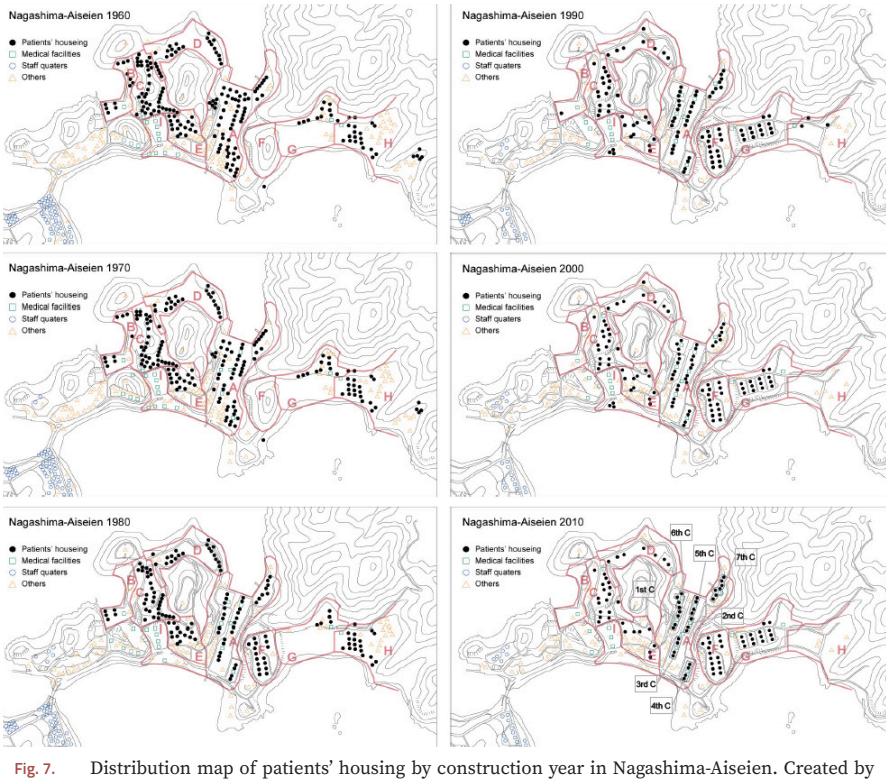

Fig. 7. Distribution map of patients' housing by construction year in Nagashima-Aiseien. Created by editing Site plan of Nagashima-Aiseien in 1953 stored by Nagashima-Aiseien.

HOUSING REDUCTION PERIOD (1990S-2010S)

Since the 1990s, there have been no significant changes, such as in Housing Supply Period or Aging Housing Maintenance Period, and the nursing care function improved sequentially to care for the aging residents. The nursing care function of Nagashima-Aiseien is concentrated in A*(Hide)*, for two possible reasons: A*(Hide)* has always been the center of the sanatorium, and many of the newly developed areas are for young and energetic people, therefore those who need help remain in A*(Hide)*.

The nursing home consists of 4 to 7 residential buildings with 1 management building, and is connected by a corridor through the middle of each building. It was called a *Center*, of which there were 7, from the *1st Center to the 7th Center*. Although the number of nursing homes did not increase after the *7th Center* was built, the reconstruction of the facilities occurred gradually every two to three years in turn.

Relocation and densification began in the nursing home in 2013, and the *5th Center* was first dismantled, followed by a part of the *6th Center*. Each center's location is shown in the 2010 building layout in **Figure 7**. On the site of the *5th Center*, a new center to supply means and a general medical center were built. The *7th Center* was demolished in 2016, and only the *1st* to *4th Centers* remain.

CONCLUSION

In this study, we investigated the housing supply and maintenance process in the first national sanatorium, Nagashima-Aiseien, through a history of its building.

First, the relationship between the increase and decrease in housing in Nagashima-Aiseien and the change in the population composition was analyzed. The data were then classified into three periods based on its characteristics: Housing supply period(1930s-1950s), Aging housing maintenance period(1960s-1980s), and Housing reduction period(1990s-2010s). Second, Nagashima-Aiseien was divided into 10 areas(area A to area J) based on the order of development, the characteristics of each area, and the location of houses constructed or maintained. Lastly, based on the historical background of each period and the changes in housing, the reasons for the selection of area developed and housing types were analyzed. The results are as follows.

Since the early days of Nagashima-Aiseien's opening, the chronic shortage of housing continued, and patient housing was supplied intensively to overcome this problem. During this Housing supply period, various types of houses were constructed broadly, but the order did not necessarily spread from the center to the suburbs. The optimal location was selected to meet the needs of the times such as food production and education. During the subsequent Aging housing maintenance period, maintenance was carried out mainly on the 30-40-year-old houses that were supplied in bulk during the Housing supply period. First, the method of destroying old houses and rebuilding houses of the same size on the spot was adopted, but

the method gradually shifted to large-scale development to ensure a larger layout suitable for new lifestyles. In addition, large-scale housing development was carried out after the disaster, while demolition progressed in areas where there were no longer any residents. Finally, the Housing reduction period focused on improving existing housing instead of supplying new housing. As residents age, facilities will be concentrated in a central residential area A(*Hide)*, and the future maintenance plan will be limited to nursing homes.

The Aiseien documents are still being sorted, and new discoveries are expected in the future. Previous research focused mainly on tracking the development of facilities because of the lack of historical materials. However, the discovery of old documents at national institutions, which are required to record the entire process of all assets, is expected to contribute to significant research progress, as prior studies had to rely on interviews with residents who lived in the facilities during the period of study. Based on this survey, the future research subjects are to expand the scope to other sanatoria nationwide and eventually clarify the characteristics of living environment in Japanese sanatoria through comparison with other countries.

ACKNOWLEDGEMENTS

This work was supported by the Sasakawa Scientific Research Grant from The Japan Science Society, the research grant of Hashimoto Foundation, and JSPS KAKENHI Grant Number JP20K22446.

DISCLOSURE STATEMENT

No potential conflict of interest was reported by the author.

NOTES ON CONTRIBUTOR(S)

Minjeong Park is an assistant professor at Okayama University. She is interested in buildings and places which are on the boundary line between common and special and the process of becoming a heritage. Hansen's disease sanatorium is one of her research fields.

Toshio Otsuki is a professor at University of Tokyo. His specialties are architectural planning, residential area planning, housing, and housing policies. He also involves with designing temporary housing after Great East Japan earthquake.

ENDNOTES

1. It used to be called leprosy, Rai in Japan, but Hansen's disease became an official name instead because of its discriminative meaning.
2. Nagashima-Aiseien is the first national sanatorium, but it is not the oldest sanatorium. Matsuoka-Hoyoen, Tama-Zensyoen, Sotojima-Hoyoin, Oshima-Seishoen, and Kikuchi-Keifuen were built as public sanatoria in 1909 based on the Law Concerning the Prevention of Leprosy enacted in 1907.
3. Article 3 of the Law Concerning the Prevention of Leprosy (1907).
4. It was in 1996 that the leprosy prevention law was officially repealed, though it lose substance at its late years.
5. Sakaino, Tomokiyo, and Takada, "The Formative Process of Architectural Planning," 41-48, Sakaino, Tomokiyo, and Takada, "Changes in the Facility Planning," 45-53
6. Matsumoto and Mukai, "A study on the residential environment," 225-228., Park, Ishikawa, and Otsuki, "Establishment of Donation House," 257-264.
7. Sakaino, Miura, Kanki, and Takada, "House Plans of an Independent Ward," 15-22.
8. Kusunoki and Tomokiyo, "Study of Historical Transformation," 193-196

9. Sakaino, Yamawaki, Nakashima, Miura, and Toyama, "A Study of Historical Change," 113-119
10. Nishimurota, Tomokiyo, and Kusunoki, "A Study of Historical transformation," 169-172
11. Data released by the Ministry of Health, Labour, and Welfare.
12. The government enacted the Law Concerning the Prevention of Leprosy to isolate patients.
13. This social movement began around 1928 with the aim of creating a prefecture without patients by isolating all Hansen's disease patients in sanatoria. In addition to the government, the general public actively participated in the movement, and local governments across the country competed to isolate patients.
14. The results of the author's survey as of 2017.
15. In Figure 5, the bar chart shows the total number of new, demolished, and rebuilt houses for 10 years total, and the line chart shows the total number of houses at the end of each decennial. The number of reconstruction cases refers to the process of demolishing existing houses and rebuilding them in their original positions, and does not affect the total number of houses.
16. The number of houses per year was calculated based on Annual reports, Site plans, the Survey of land and buildings, and so on.

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IMAGE SOURCES

Fig. 1 Created by the author
Fig. 2 Created by the author
Fig. 3 Arial photograph No. CCG20162X-C3-21, Geospatial Information Authority of Japan
Fig. 4 Created by the author editing Site Plan of Nagashima-Aiseien in 2010 published in The 80th Anniversary of Nagashima-Aiseien(2011)
Fig. 5 Created by the author
Fig. 6 Created by the author editing Site plan of Nagashima-Aiseien in 1953 stored by Nagashima-Aiseien
Fig. 7 Created by the author editing Site Plan of Nagashima-Aiseien in 2014 stored by Nagashima-Aiseien

Deploying smart tools for safe public open space events during the Covid-19 pandemic

Ilija Gubic
University of Belgrade

Abstract

The predominantly urban world is experiencing 4th Industrial Revolution where cities and the quality of life are being affected by new synergy of physical and digital spaces. Being landlocked developing country Serbia is seeing digitalization of its basic urban services as a priority and setting up a favorable business environment for tech companies as a mean for an economic boost. Serbia's second largest city Novi Sad is a leading urban hub where most of the country's new urban development is occurring. The city is awarded with the title of the European Capital of Culture for 2022. The city organized tens of culture related events during the COVID-19 pandemic, getting ready for the year-long event. Since December 2019, the global community has been challenged with limiting the spread of COVID-19, which was declared a pandemic in March 2020, and has been fatal for over 5 million people globally. As COVID-19 is highly contagious, in 2020 governments closed their international borders, limited national and local transportation and people's movement, especially in cities. In Serbia, access to such spaces was restricted from March 22, 2020, followed by frequent modifications of measures. Regardless the pandemic, city of Novi Sad relied on digital innovations to continue implementing projects in the culture sector firstly online later on-site. This research aims to determine the way the city of Novi Sad managed to host culture events attended by hundreds of people during the COVID-19 pandemic, and understand rather those events provided needed safety for public open space users. This paper incorporates information provided by the city of Novi Sad and organizers of the culture related events, the poll of citizens that attended events during the pandemic such as: EXIT Festival, Kaleidoskop kulture, Festival uličnih svirača [Street musicians festival] to name a few, and an analysis of spatial urban elements and condition from the aspect of safety of public open spaces that served as event venues. Results of this research could be replicated to other cities in the region for events of similar scale at the public open spaces during the pandemic. The practical application of the results could be seen as informing safety monitoring and evaluation framework, changes in urban and architectural design that would lead to eliminating negative consequences to safety, and others.

Keywords

ICT, digitalisation, smart city, culture events, COVID-19, Novi Sad, European Capital of Culture

How to cite

Gubic, Ilija; "Deploying smart tools for safe public open space events during the Covid-19 pandemic". In Carola Hein (ed.), *International Planning History Society Proceedings*, 19th IPHS Conference, City-Space-Transformation, TU Delft, 5 - 6 July, 2022, TU Delft Open, 2022.

Managing Urban Growth using Soft-law

Lessons learnt from Yokohama in 1960s/70s and Koto in 2000s

Kenji Asakawa
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Abstract

The city space transformation is more rapid and radical in urban growth than in urban shrinkage. Thus, the transformation during the growth phase tends to lead to a rapid deterioration of the urban environment, through suburban sprawl, which in turn leads to a deterioration of the living environment in the city, i.e. a lack of public facilities, such as green spaces and public buildings. To prevent this deterioration of the living environment, the municipalities are responsible but unable to secure enough land for the public facilities commensurate with the size of their growing population due to their limited budgets. It is, therefore, necessary for those municipalities to have rules that collect urban developers' contribution for part of the land and funds needed to build such public facilities that especially ensure residential areas remain more resilient from overpopulation caused by rapid and radical urban growth. The rapid urban development that accompanied Japan's rapid economic growth from the 1960s onwards forced municipalities in suburban areas to invest heavily in securing land for public facilities. As mentioned above, municipal budgets during the growth phase could not cope with these rapid increases in expenditure, and it was not left to the municipal discretion to introduce additional local taxes flexibly. Therefore, those municipalities introduced rules for land development exaction (LDE) that required voluntary contribution of lands and funds from urban developers in connection with their housing developments, which greatly reduced the financial burden on these municipalities. As these rules were only "soft law", some municipalities had troubles with the developers who did not follow the rules in the case that they were not endowed with incentives enough to follow the rules (Asakawa 2018). Subsequently, the contribution was legalized nationally, but this prevented the contributions to be regulated by ordinances according to local conditions, and local autonomy collecting the contribution has been widely constrained, even though the other local autonomy has been more widely. However, unlike in the 1970s, when the contribution was collected only through soft law, some cases utilized hard law, namely ordinance, to establish the framework of the LDE system, in addition to soft law to define the substance of the contribution. In the case of Koto Ward (Tokyo), to address the financial issue as similarly confronted during the period of rapid economic growth since many high-rise condominiums were built in the 2000s, the Koto municipality formulated a framework

for LDE through a legally binding ordinance and defined the details through soft law. This paper summarized the general characteristics of soft law and hard law, showed that the combination of the two would be useful for the LDE system by considering the characteristics of each in the case of Koto Ward, and discussed what roles soft law and hard law should play. In this way, the paper provides suggestions for the design of development burden systems that can be adapted to the various circumstances surrounding urban development.

Keywords

Soft-law, Urban growth management, Land development exaction for public facilities

How to cite

Asakawa, Kenji; "Managing Urban Growth using Soft-law: Lessons learnt from Yokohama in 1960s/70s and Koto in 2000s". In Carola Hein (ed.), *International Planning History Society Proceedings*, 19th IPHS Conference, City-Space-Transformation, TU Delft, 5 - 6 July, 2022, TU Delft Open, 2022.

6 JULY: SESSION 1.2

(DE)COLONIAL HISTORIES.

Chair: Naoto Nakajima

(Re)Planning Public Spaces and Decolonization

The Philippines, and its Move towards a Postcolonial Future, 1916-41

Ian Morley
Chinese University of Hong Kong

Abstract

This paper for conference offers an insight into City Beautiful urbanism in the Philippines during the era 1916 to 1941, i.e. the years between the onset of decolonization and the commencement of World War Two in Asia. In particular, the paper shall focus upon the redesign/transformation of Spanish colonial plazas by Filipino architect-planners employed within the colonial bureaucracy (namely the Bureau of Public Works), and urban environmental transitions inspired post-1935 by the Filipino-led Commonwealth Government. These include the vision of laying out Quezon City, a new settlement, as an 'ideal Filipino postcolonial capital'. As a previously ignored facet of urban planning in the Philippines during the American colonial era, the paper will introduce schemes previously outside the historiography of the City Beautiful, and will highlight the role of city planning by native professionals as part of the evolution of Philippine society as it headed toward national independence (granted in 1946). In so doing, the paper will discuss the different readings of renewed colonial spaces: to the Americans spatial transformation/modern planning practice referenced the evolution of Philippine society under their guiding hand; to Filipinos, spatial change/modern urban design had a somewhat different value. It underscored the promotion of Philippine nationhood and the growth of local democracy, viz. matters of huge social and political importance given the American promise in 1935 to issue in ten years Filipino self-sovereignty. In summary, the paper will offer an original overview of the development/alteration of the Philippine colonial city in the run-up to national independence, the role of native professionals within the decolonizing planning process, and the application of City Beautiful design during an important political and cultural period in Philippine history. In doing this, a new take on Philippine decolonization, and Filipino modernism, is presented.

Keywords

Space, Transformation, Decolonization, City Beautiful, The Philippines

How to cite

Morley, Ian; "(Re)Planning Public Spaces :and Decolonization The Philippines, and its Move towards a Postcolonial Future, 1916-41". In Carola Hein (ed.), *International Planning History Society Proceedings*, 19th IPHS Conference, City-Space-Transformation, TU Delft, 5 - 6 July, 2022, TU Delft Open, 2022.

The Role of the Military Mathematics Academies in Early Modern Spain From the Perspective of Urban Planning Education

Akihiro Kashima
Setsunan University

Abstract

The starting point of this study is the question of how the military engineers who were responsible for town planning learned the knowledge of planning in the Spanish pre-modern period, before the concept of "Planificación urbanística (urban planning)" was popularized in the modern era.

The subject of this paper is the academies that trained architects and engineers who were involved in the development of cities in pre-modern Spain. In particular, this paper focuses on the Royal Military Academy of Mathematics of Barcelona (hereafter referred to as the Barcelona Academy), an educational institution that produced architects and engineers involved in urban planning in 18th century Spain. The main purpose of this paper is to historically situate the relationship between the academy's education and urban planning education by examining the curriculum and educational contents. From the 16th century onward, architectural education was to educate engineers who plan military facilities and fortifications based on mathematical knowledge. From its history, the Barcelona Academy in the 18th century can be situated as an extension of the academy related to the traditional architectural education. Its curriculum also shows that it was required to educate rational fortification construction and economic planning techniques and to have a direct and effective impact on national defense. The history of the Barcelona Academy also showed a close relationship with the Spanish Corps of Engineers. In addition, not a few of the graduates of the academy were engineers who were involved in planning projects in Spain and colonial towns, indicating that the academy was an educational institution on defense and planning that was very important to the Spanish Royal. In addition to those who worked on Spanish and colonial military planning, many graduate engineers were also responsible for civic urban planning and planning of public spaces such as plazas, streets, and street trees. In the 18th century, when Barcelona constructed the city fortification, "Ciutadella", those who planned the fortress were the engineers involved in the Barcelona Academy, while the residential planning for the district, "Barceloneta", was also entrusted to a graduated engineer from the Academy. This Barceloneta plan was a residential quarter planned with blocks,

housing plots, plazas, and community facilities for the citizens who had to be confiscated for their residential lands for the construction of the Ciutadella. We can recognize that public space planning for the residents, the tree-lined pedestrian street, La Rambla, in the old quarter of Barcelona, were implemented at this time and it was the origin of today's very important linear plaza as public space. It should be noted that the origin of La Rambla as public space was also planned by the engineer who trained at the Barcelona Academy. The discussion in this paper goes back to the history of architectural education, focusing on the Royal Academy of Mathematics of Barcelona, and shows historically that architectural education at the academy in the 18th century have possibly formed an educational environment for cultivating practical application ability toward town planning.

Keywords

Town planning education history, Architectural education history, Royal Military Academy of Mathematics of Barcelona, Pre-modern Spain, Military engineers, 18th century

How to cite

Kashima, Akihiro; "The Role of the Military Mathematics Academies in Early Modern Spain From the Perspective of Urban Planning Education". In Carola Hein (ed.), *International Planning History Society Proceedings*, 19th IPHS Conference, City-Space-Transformation, TU Delft, 5 - 6 July, 2022, TU Delft Open, 2022.

The rise and fall of colonial Seoul's mass transit planning during the late colonial period (1928-1944)

Youngjoon Kim, Naoto Nakajima
The University of Tokyo

Abstract

Recently, the historical changes of mass transit (or public transportation) in colonial cities have been widely studied in the field of colonial urban planning. Although there were a few previous studies in case of Seoul, which was one of the biggest colonial cities in East Asia ruled by Empire of Japan, these studies have limitations in setting the analysis target and study timeline. To fill this research gap, this study aims to give a historical consideration focusing on the change in mass transit planning which was executed in colonial Seoul (officially called Keijō) by Japanese Government-General of Korea during the late colonial period, based on historical documents which were not covered in previous studies. Since the mid-1920s, when discourses about the enactment of urban planning act on colonial Korea has begun, concrete plan for the expansion of mass transit was also conducted to deal with the rapid growth of colonial Seoul. After the establishment of Chōsen City Planning Act in 1934, Keijō Municipal Government begun to plan for the expansion of mass transit, which was supposed to be operated municipally. However, due to the lack of priority in budget, construction of mass transit system was delayed. To take the chance of this absence of proper mass transit system, several private-funded railway plans were suggested. But as the Japanese government regarded Seoul as the logistic basement city for the Sino-Japanese War and Pacific War, the importance of transportation throughout the Seoul became more significant in the late-1930s. The subway system and the interurban electrified railway plan was built up by the chamber committee consisted of Keijō Municipal Government, Japanese Government-General of Korea, and operation companies. But as the progress of war went against Japan after 1943, the concrete budget for these plans was cut and eventually, all of plans for mass transit ceased by 1945. The results give us several findings in the light of colonial urban planning. First, the most significant factor for the expansion of mass transit in colonial Seoul was the war regime. The conception of 'public' was replaced by the 'efficiency' to make colonial Seoul better logistic basement city serving the war. This situation continued until the end of World War II in August 1945. Second, the inequality in construction of mass transit during the late colonial period caused the traffic problem lasting after the liberation of Korea. Although there was an accessibility disparity between western and eastern area of Seoul, there was few practical actions for improving this problem throughout the colonial period. It took more than three decades until the disparity was relieved with

the construction of the Seoul Metropolitan Subway after the mid-1970s.

Keywords

colonial urban planning, Japanese colonial period, Korea, mass transit, public transport, Seoul

How to cite

Youngjoon, Kim; Nakajima, Naoto; "The rise and fall of colonial Seoul's mass transit planning during the late colonial period (1928-1944)". In Carola Hein (ed.), *International Planning History Society Proceedings*, 19th IPHS Conference, City-Space-Transformation, TU Delft, 5 - 6 July, 2022, TU Delft Open, 2022.

'Vast stretches of waste land'
A politico-economic theoretical lens on premature development in Australia

Nicola Pullan
University of New South Wales

Abstract

In 1948, a quarter of a million privately-owned, vacant, and mostly un-serviced building lots existed on the suburban fringe of Sydney. Subdivided primarily by capital investment companies, approximately half the considerable stock was described as 'vast stretches of waste land, useless to the holder and equally useless for the farming purposes for which they were often originally used'. Premature land development was the result of profit-taking from land being regarded as a legitimate undertaking, with large areas subdivided to meet international investment needs during a period of domestic prosperity but which halted abruptly with the onset of a severe local economic depression. Placed on the market intermittently over the next seventy years, the greater part failed to sell until finally purchased as inexpensive individual lots by marginal residential purchasers during the era of financial stability and expansion that followed World War Two. The practice of premature land development on Sydney's suburban fringe has been largely neglected in both empirical and conceptual terms. This paper pursues the latter challenge to try to make sense of the subdivision and then settlement of this land in a global economic context. Original research data is agglomerated using QGIS to reveal the spatial relationship of these now-occupied lots to the early subdivisions. The author then draws upon Arrighi's theory of Systemic Cycles of Accumulation as a conceptual tool to analyse the spatial configurations of world-wide processes of capital investment. The proposition explored is that premature development of these vast tracts of land and the purchase and occupation of the residential lots decades later were the products of two contrasting eras of capital investment within a 150-year economic cycle. Firstly, a period of global economic reorganization during which the investment of otherwise-unprofitable capital in international financial markets during the late nineteenth century enabled colonial borrowers to purchase and subdivide large tracts of land on a speculative basis. Secondly, a brief moment of widespread economic stability at the height of the US hegemony which facilitated the ultimate purchase of this vacant land by otherwise-homeless marginal buyers who constructed and occupied first a temporary, then a permanent, dwelling. The paper concludes by proposing that the spatial outcomes inherent to systemic cycles of accumulation enabled the achievement of homeownership by a group otherwise precluded from purchase of a residential property and so contributed to the transformation of the city of Sydney during this period, additionally it suggests that this interpretative economic model could be generalised to analysis of comparable instances of marginal homeownership in other eras and locations that have been the

subject of earlier papers.

Keywords

suburban transformation, premature development, systemic cycles of accumulation, capital investment, Sydney

How to cite

Pullan, Nicola; "'Vast stretches of waste land': a politico-economic theoretical lens on premature development in Australia.". In Carola Hein (ed.), *International Planning History Society Proceedings*, 19th IPHS Conference, City-Space-Transformation, TU Delft, 5 - 6 July, 2022, TU Delft Open, 2022.

6 JULY: SESSION 1.3

URBAN MORPHOLOGY.

Chair: Rob Freestone

Diversification of Grid Blocks' Morphology in Beijing, China, from the View of Block Formation

Jiankun Liu
Tianjin University

Abstract

Urban blocks are the highly unchangeable units that make up urban form. Grid blocks have been commonly applied in the continuous top-down planning in Beijing, China, since ancient time. However, the uniform urban planning did not lead to standardized block form, but has morphological diversification appeared. Hence, the research attempts to clarify its dynamic from the initial formation process. It investigates the typological formation process of grid blocks in Beijing form historical maps, and their correspondence with urban development stages. It concludes that the construction of grid blocks covers a long time span without any certain order of boundary defining and subdivision forming. The irregularity and diversity in block morphology result in both conflicts and potential in creating urban diversity in the urban renewal in Beijing city.

Keywords

Grid block, Urban morphology, Block formation process, Diversification

How to cite

Liu, Jiankun; "Diversification of Grid Blocks' Morphology in Beijing, China, from the View of Block Formation". In Carola Hein (ed.), *International Planning History Society Proceedings*, 19th IPHS Conference, City-Space-Transformation, TU Delft, 5 - 6 July, 2022, TU Delft Open, 2022.

DOI: 10.7480/iphs.2022.1.6468

INTRODUCTION

Urban blocks are the 'basic units' making up urban form and are highly unchangeable. Their arrangement reflects social change and economic development, and they are a kind of media for plot/building to realize street publicity, accessibility and livability. Hence, urban blocks, can also be called a city's DNA, and their transformation process is possibly a physical clue of reading urban morphology.

Beijing is the capital city and traditional city of China. It has implemented a centralized government management system since ancient times, in continuity with top-down urban planning. Three models could be identified in Beijing depending on national investment and policies in different epochs, including 1) The imperial city model, 2) the socialist city model, and 3) the neo-liberal city model, but not one of them has managed to get the upper hand.[1] It is described as a city that grows only via radical changes, where massive uprooting occurs and demolition becomes the main action of the urban planner.[2] On the one hand, it originates from the uniform and conventional grid plan in ancient China. But the grid blocks in Beijing transformed diversely in microscope, either on purpose or spontaneously. On the other hand, its historical continuity with unprecedented modern urbanization process brought drastic changes to the urban morphology, adding complexity and uniqueness to the block form transformation. Thus, the unification and diversification of grid blocks require clarification.

Because urban blocks are considered as a product of the combined influence of social, economic, historical, political, and environmental factors in a given geographical environment and historical period, accordingly, reviewing the formation of blocks and their background at the specific time is the precondition for understanding the following transformation.

Hence, the objective of this research is to investigate the typological formation process of grid blocks in Beijing, in order to clarify their possible influence on the subsequent transformation process. The proposed approach and findings contribute to further analyzing the process of urban morphological diversification in Beijing, and understanding the urban form transformation, through grid blocks.

In previous literatures, urban morphology of Beijing in ancient times,[3,4,5,6] Republic of China,[7,8] and modern time are fully discussed from the perspective of what was coming out. For urban space analysis, the Old Town is usually focused on spatial transformation.[10,11] However, limited research has taken block as the basic unit to clarify their roles in leading grid geometry transform diversely either on purpose or spontaneously. Among the few research on urban blocks, the current morphology of limited indicators was investigated, but their formation process that may influence the transformation have not drawn enough attention. Hence the clarification of grid block formation establish the foundation for clarifying the mechanism of diversification in the transformation process of urban morphology in Beijing.

RESEARCH METHODOLOGY

The urban road and street system in Chinese city can be classified into 4 categories in middle class: Expressway, arterial(trunk) road, secondary trunk road, and branch road.[12] Expressway, arterial(trunk) road and secondary trunk road are included in Arterial road system, and branch road mainly serves for local activities. Blocks considered in this research represent the areas bounded by expressway, arterial(trunk) roads or secondary trunk roads, and may be further subdivided by branch roads inside into sub-blocks. They refer to not only the Rectangle ones, but also those adopt at least 3 of the 4 sides being orthogonal to each other.

Based on the above definitions, excluding those with large part of unconstructed areas or irregular river, lake, forest etc. inside, 194 cases were collected within the 3rd Ring Road of Beijing which covers most of the Core Area of Beijing.

Based on the satellite maps and city maps of Beijing from 1750 to present, the approximate time of the above four time points in block formation were confirmed. Then, the corresponding stages of Beijing's urban development stages were recorded based on historical maps.[13] Finally, the typologies of formation process of grid blocks in Beijing was classified according to the order of initial construction, boundary defining, and subdivision.

BLOCK FORMATION PROCESS

FOUR TIME POINTS IN THE PROCESS OF BLOCK FORMATION

The process of block formation can be decomposed and described by four important time points: the time of initial construction, the time of block boundary being defined, the time of current subdivision (branch roads) being formed, and the time of current block pattern being finished. They are defined as following in this research (Fig.1):

1. **The time of initial construction.** The target area has begun to be constructed and has covered over half of the area, but it has not formed a clear block yet.
2. **The time of block boundary being defined.** The grid block was clearly defined as a separated and independent area with urban roads as boundaries.
3. **The time of current subdivision (branch roads) being formed.** All the branch roads within the block have been constructed and have not changed significantly until now.
4. **The time of current block pattern being finished.** As there are some cases that had their boundaries defined first, subdivision finished second, while, some had the branch roads constructed first and boundaries defined later. This indicator refers to the time that both boundary and branch road subdivision were finished.

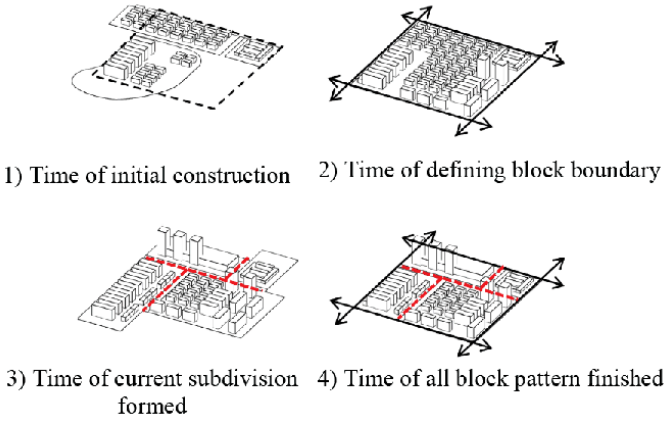

Fig. 1. Four steps in the process of block formation

URBAN DEVELOPMENT STAGES OF BEIJING

Beijing is a planned imperial city over hundreds of years. It can be traced back to capital Yuan Dadu (Yuan Dynasty, 1271–1368 CE), following closely an ancient Chinese planning model based upon concepts such as the centrality of the city plan, concentricity of city walls, dominance of a north-south axis, a gridded street plan, and a square-shaped plan for the whole city (Zhu, J. 2004).[14] Beijing was remodeled with new constructions under the Ming dynasty (1368–1644 CE), finalizing the prototype of the current Beijing. It is mostly inherited in Qing Dynasty (1644–1911 CE) and became the foundation of the new era of urban development after the establishment of the People's republic of China in 1949.

In order to clarify the formation process in a more detailed view, the development of Beijing is divided into five periods according to the most dramatic changes of the city forms throughout its history (Table1). I. The imperial city period (1153~1911), II. The initial modernization period (1911-1949), III. Socialist planned period (1949-1982), IV. Socialist marketing period with rapid urban development (1982-2003), V. Internationalization period with urban development and redevelopment (2004-present).

TIME OF THE FORMATION PROCESS OF GRID BLOCKS AND ITS CORRESPONDING URBAN DEVELOPMENT STAGES

Although the Old Town of Beijing originates from ancient times, the changes and reconstructions were disruptive. Only 14 grid blocks are inherited from the initial boundaries before 1911(Fig.2), and they are mostly closed to the Palace City, near the central city axis. Furthermore, only 7 of these ones inherited the original subdivision. In other words, only seven of 194 grid blocks inside the Old Town of Beijing persist their original urban patterns. If considering the building replacement, the change would be more surprising.

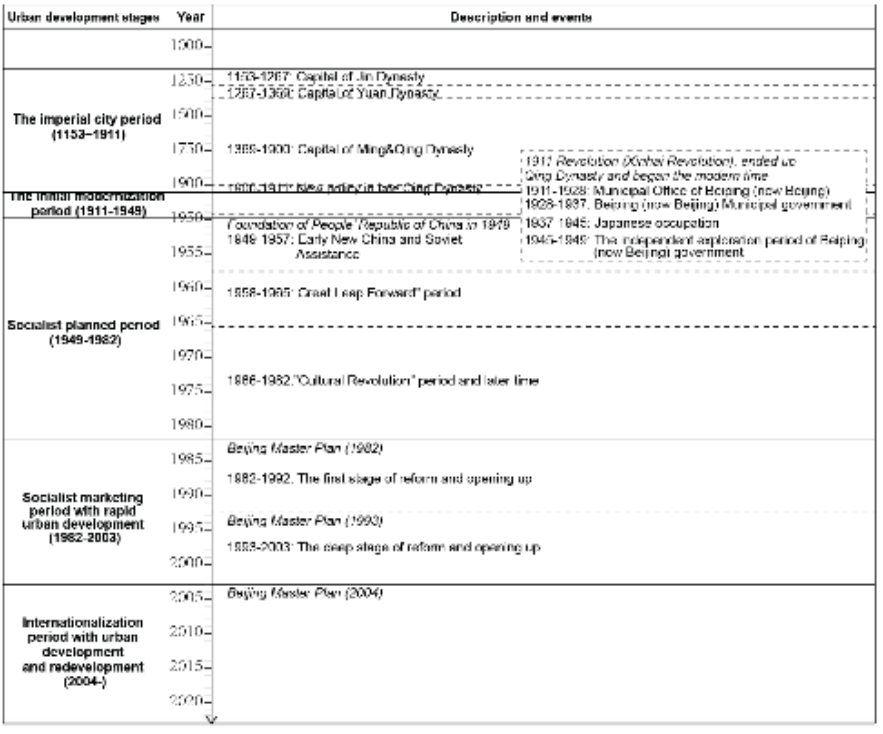

Table 1. Urban development stages of Beijing

The outer town of the Old Town was not completely constructed before 1911, which offered a chance for implementing the western modern urban planning concept there. So, a few grid blocks were generated during 1911-1949 in the outer town and the embassy area near Dongjiaomin Lane. But affected by the 2nd World War, the urban modernization process was stopped.

Grid blocks which were started construction in Stage 3 Socialist planned period (1949-1982) adopted the largest number (108 cases), but less than half of them were clearly defined as a "block" (43 cases). It implies a rather rough sprawl tendency in every direction based on the Old Town. The clearly defined blocks were mainly formed towards the west and the east out of the Old Town, which reveals a relative precise sprawl in these two directions. The sprawl was supposed to be following the grid network inside the Old Town, but as a consequence of the social stagnant in the late 1960s and 1970s, many built-up areas remained undefined during Stage 3.

Stage 4 encountered the trend of redevelopment. The huge changes from Socialist planned economy to Socialist marketing economy resulted in new land-use demand. Hence, urban patterns were changed correspondingly to meet new requirements. Not only the cases that had not been completed in Stage 3 were defined and subdivided, but some cases in the Old Town were re-defined or re-subdivided. As the Fig.3-9 shows, 103/194 cases had their block pattern finished, which reached the peak of block construction.

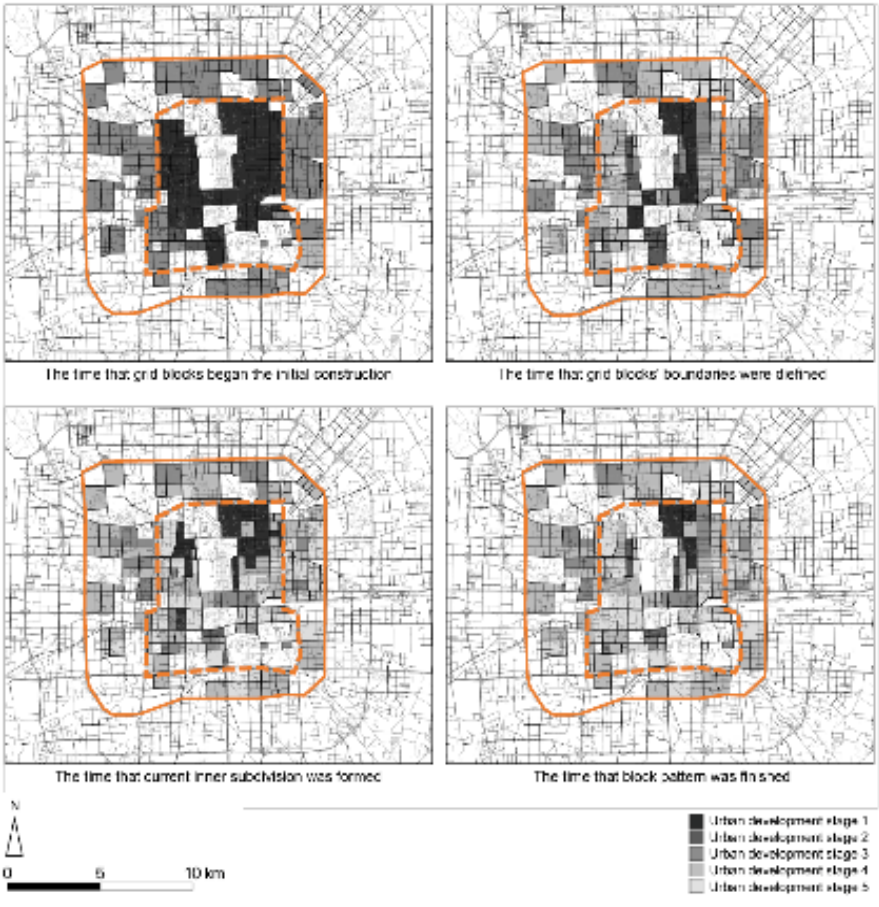

Fig. 2. The time (corresponding urban development stages) of the four steps in block formation process

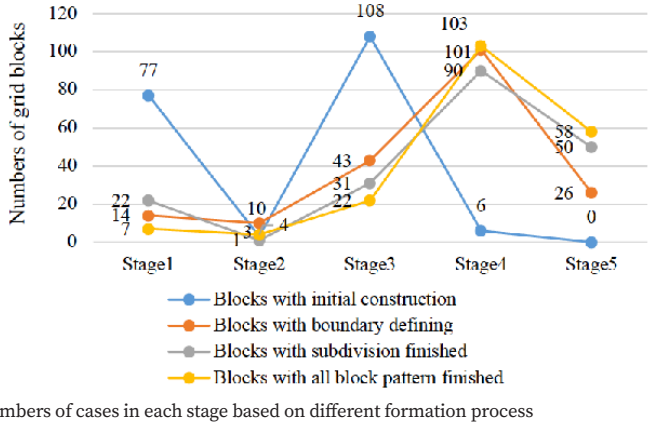

Fig. 3. Numbers of cases in each stage based on different formation process

Last but not least, there is no block that is firstly constructed in Stage5 within the 3rd Ring Road, and only 26 cases had their boundaries defined in Stage5. However, 50 cases, that is more than 1/4 of the 194 blocks, have their inner patterns being re-subdivided. It is a continuity of redevelopment of the built-up areas of Beijing from Stage 4.

As a result, over 1/3 of the cases within the 3rd Ring Road of Beijing were initially constructed in ancient times but few patterns were inherited, which can be an important factor that endowed Beijing with an image of "massive uprooting and demolition". Most of the areas started the construction process during 1949-1982, reflecting a period of rough urban sprawl, while the redevelopment process got on stage and reached the peak during 1982-2004. The tendency continues but in a weaker degree after 2004.

TYPOLOGIES OF FORMATION PROCESS OF GRID BLOCKS

According to the time points and corresponding urban development stages confirmed before, the formation process of grid blocks in Beijing can be classified into 6 typologies based on the order of initial construction, boundary defining, and subdivision (Table 2).

More than half of the blocks have their boundaries defined and inner space subdivided in the same period (Type A1, Type A2), and they were mostly a measure of re-arranging the urban spaces that were roughly constructed previously (Type A2).

There are 54 cases (Type B1, Type B2) that were subdivided after the block boundaries were defined, among which 7/14 of Stage 1 and 22/43 of Stage 3 (Type B1) changed the original subdivision patterns (Fig.4). As the branch roads in Beijing are mainly for service functions that have close relationship with place-making and daily life in urban spaces, the high rate of re-subdivision may lead to loss of local identity. It is not only in urban morphology, but in the sense of belonging as well.

The cases that maintain the existed subdivision with boundaries being defined later(Type C1, Type C2) take up less than 1/6 of all. The subdivision were not planned based on the boundaries, but from the view of urban road network and traffic. As a result, it may lead to a weaker connection between the inner patterns and the block boundaries. The inner patterns are cut off suddenly by the arterial road system, leaving the blocks and adjacent blocks separated from each other.

Moreover, from the numbers of each process type based on the time the block was defined (Fig.4), blocks defined in urban development Stage 1, Stage 2, and Stage 3 are mostly in Type B (B1 or B2). It means that they were re-subdivided in the later periods. The distinctive urban forms that may maintain the social identities of specific time were probably lost during the re-subdivision process. On the contrary, cases defined in Stage 4 mainly had their boundaries and inner patterns constructed simultaneously. Large numbers of new blocks were built up, but whether they were planned in a brand-new way or implemented with inherent patterns from the previous, need to be further investigated.

According to the typologies of block formation process classified above, grid blocks in Beijing were not constructed in a certain order or integrally within specific urban development stages. Moreover, they distribute rather randomly(Fig.5). Their formation covers a large time span. Consequently, their construction may be required to comply the principles of different periods, lacking in continuity and integrity. Moreover, the uncertain order of boundary defining, and inner space subdivision increases the separation between the two elements.

Type		Number	Diagram
Block boundary and subdivision formed at same stage			
Type A1	Original pattern	28 cases	
Type A2	Initially constructed without forming block; then re-define & re-subdivide	81 cases	
Boundary was defined first, then subdivided			
Type B1	Original boundary, then re-subdivide	29 cases	
Type B2	Initially constructed without forming block; then re-define; finally re-subdivide	25 cases	
Subdivision formed first, then boundary formed			
Type C1	Original subdivision, then re-define	24 cases	
Type C2	Initially constructed without forming block; then re-subdivide; finally re-define	7 cases	

Table 2. Typologies of formation process

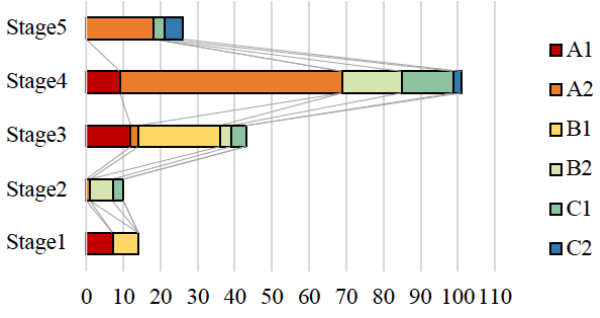

Fig. 4. Numbers of each pro-type based on the time the block was defined (By author)

CONCLUSIONS

CONSTRUCTION OF GRID BLOCKS COVERING LONG TIME SPAN

The initial construction of grid blocks in Beijing did not leave much impact on their current form for most cases. The characteristics of urban space construction in ancient times and Socialist planned period (1949-1982) transformed and adapted to updated requirements in subsequent epochs. The overlayered process makes the block pattern more complicated, resulting in diverse forms.

UNCERTAIN ORDER IN BLOCK FORMATION PROCESS

Although Beijing has a continuous history and a rather unified urban planning process from antiquity, its process of forming the current demarcative urban pattern had twists and turns. Some patterns were constructed integrally, and some were developed in a serial order, while some others were formed in a more passive way without enough consideration for the connection inside and outside the block. The uncertain order of formation process endowed the traditional grid blocks with higher possibilities in diversifying into more patterns.

The aforementioned factors contribute to the irregularity and diversity in block morphology in the uniformly planned Beijing. In addition, a single block may adopts characteristics of principles in different periods. It, on the one hand, conflicts may be intensified when the former ones were transformed passively in urban development. On the other hand, it shows the potential in creating diversity in both urban physical form and human life, which require consideration in urban renewal in Beijing city.

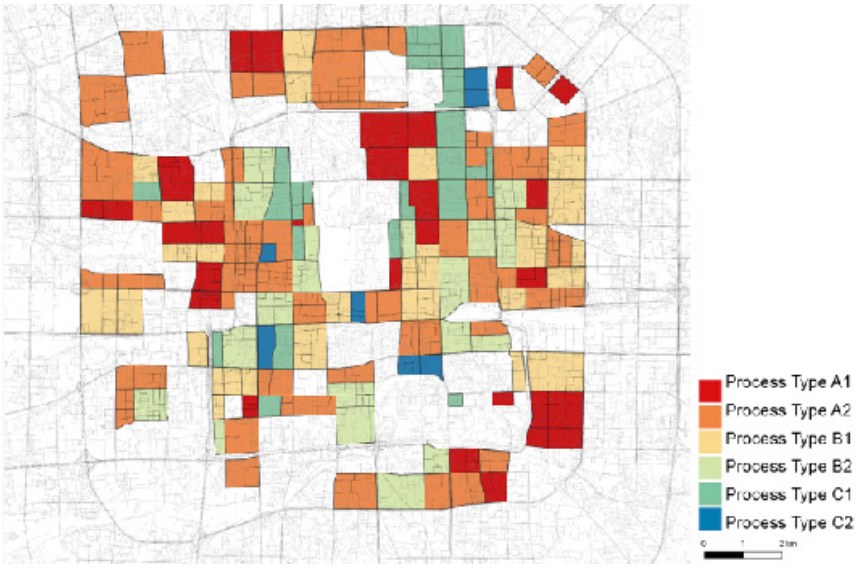

Fig. 5. Distribution of each formation process type (By author)

DISCLOSURE STATEMENT

No potential conflict of interest was reported by the author.

ENDNOTES

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IMAGE SOURCES

All figures by author.

The Yin-Yang of Planning Shenzhen and Hong Kong

Richard Hu
University of Canberra

Abstract

Shenzhen and Hong Kong have a unique intercity relationality in contemporary urban system. They are closely interrelated and interdependent, geographically and functionally; they are also profoundly separated, jurisdictionally and socially. They are essentially one metropolis in terms of urbanisation and connectivity, but a border line breaks them into starkly different entities under China's governance structure of 'one country two systems'. They have been deeply influencing each other, and the relationality has been drastically shifting, driven by internal dynamics and external forces. In this paper, I unpack the shifting relationality between Shenzhen and Hong Kong and its influence on and reflection in the planning of the two cities. In doing so, I draw upon the traditional Chinese philosophy of Yin-Yang to make sense of the interdependence of the two cities as 'opposites in unity' and the inter-transformation of their relationality. Shenzhen was a derivative city of Hong Kong. In 1980, the Chinese government designated Shenzhen as a special economic zone—to spearhead the country's modernisation agenda of 'reform and opening-up'—simply for its proximity to Hong Kong. The central consideration was to benefit from the spill-overs of investment, technology, management, talent, and market from Hong Kong, which was already a newly industrialised economy and a leading international city then. Since then, Shenzhen has rapidly risen into an international metropolis nearly from scratch in around four decades. Further, Shenzhen has now surpassed Hong Kong in terms of population, GDP, and most importantly, innovation capacity. This shift is remarkable, but the contributory factors and resultant effects are very complicated. It has not been well investigated to inform an understanding of its relevance to and implication for planning. I analyse the shift in broader national and international contexts, and examine how this shift has been influencing the planning of the two cities. As a reflection of the shifting relationality, the previous important role played by Hong Kong in the planning of Shenzhen—through bringing the latter into international development—is shifting to Shenzhen, which now plays an important role in the planning of Hong Kong—through integrating the latter into national development. This relational planning is a function of more than the intercity relationality; it is also a function of changing state will and escalating geopolitics in the new context of a rising China.

Keywords

Shenzhen, Hong Kong, relational planning

How to cite
Hu, Richard; "The Yin-Yang of Planning Shenzhen and Hong Kong". In Carola Hein (ed.), *International Planning History Society Proceedings*, 19th IPHS Conference, City-Space-Transformation, TU Delft, 5 - 6 July, 2022, TU Delft Open, 2022.

City Layout
A Specific Form of Planning Heritage

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Jiangsu Provincial Planning and Design Group

Abstract

The study of "planning heritage" has already become a fertile field in planning history studies. Planning heritage is generally recognized as a type of "planned urban environment", which has outstanding cultural value. Recent relevant researches mainly focus on the description of the cultural value of specific planning heritage properties. However, as an independent heritage theme, the distinction of planning heritage from other heritage types is rarely mentioned. This paper demonstrates that planning heritage emphasize more on the relationship or connectivity between single physical spaces, compared with other heritage types that mainly emphasize on physical space itself. Therefore, on the view of relative space, the spatial form of planning heritage could be described as a kind of "relational space", which is similar to the concept of "field" in Physics (such as "magnetic field" and "electric field"). The essence of this relational space is the spatial order created by town-planning activities in history, where lies true cultural value of planning heritage properties. This paper further analyses some typical ancient cities in China, in order to provide evidence for the viewpoint.

Keywords

planning heritage, relational space, the view of relative space

How to cite

Zhu, Chengyu, "City Layout: A Specific Form of Planning Heritage". In Carola Hein (ed.), *International Planning History Society Proceedings*, 19th IPHS Conference, City-Space-Transformation, TU Delft, 5 - 6 July, 2022, TU Delft Open, 2022.

Chengyu Zhu

Green spaces as the backbone of urban form

The experience of Canberra's urban design and planning

Fahimeh Mofrad
University of Western Australia

Abstract

Abstract Urban Green spaces are an essential part of an urban environment, serving both people and the environment. The attention to the necessity of green spaces has been intensified after the destructive impact of the industrial revolution on people's health and social life. Accordingly, the 20th century witnessed new ideas in urban design and planning, such as garden city theory, to bring nature back into the city. In the meantime, Canberra; the national capital of Australia; was designed in 1912 by Walter Burley Griffin based on a landscape vision. Canberra was constructed on a grassland plain, respecting its original landform and native forest. The green open space system is intertwined and united with the urban landform. Today, Canberra's respectful urban form to the landscape has become a legacy. Unlike other cities, the construction of Canberra enhanced its landscape by modifying the poor soil condition and planting millions of trees not only in the treeless valley; where the city was constructed; but also on the surrounding hills and mountains. Accordingly, Canberra has the privilege of provision of green and open spaces within the urban environment. However, Canberra's urban structure has its own problems such as having a sprawling structure due to the open space conservation approach and the green corridors in between suburbs. Meanwhile, this city is facing the urban transformation challenge to respond to the population growth. In 2012, Canberra's development strategy was defined as a more compact city with 70% infill development. The densification strategy can impose a threat to the quality and quantity of green spaces within the urban footprint. The challenge is now to balance the conservation approach of the green spaces with the urban development needs. To sustainably address this issue and plan for this transformation, an in-depth understanding of the contribution of green spaces in Canberra's design and historic urban development progress is needed. Therefore, this paper reviews the historic development of Canberra with the main focus on green and open spaces. This research highlights that how the governance and policymakers have influenced the current character of this city and what are the current urban planning strengths and constraints. This study can inform Canberra's future urban development. Also, Canberra urban design, planning and governance practice could be a salient case study for future worldwide experiences.

Keywords

Urban Resilience, Urban design, Urban planning, Greenspace, Canberra

How to cite

Mofrad, Fahimeh; "Green spaces as the backbone of urban form: The experience of Canberra's urban design and planning". In Carola Hein (ed.), *International Planning History Society Proceedings*, 19th IPHS Conference, City-Space-Transformation, TU Delft, 5 - 6 July, 2022, TU Delft Open, 2022.

6 JULY: SESSION 1.4

URBAN TRANSITIONS.

Chair: Yanchen Sun

Re-evaluating Tangshan Post-earthquake Reconstruction Planning

The Legacy of Modern Urban Planning in China

Chengyu Zhu, Baihao Li
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Southeast University

Abstract

On July 28, 1976, an earthquake measuring 7.8 on the Richter scale struck Tangshan, a Chinese coal mining city with a century-old industrial history and a population of 1.06 million, killing 242,400 people and damaging 95.5% of the city's buildings. More than 60 urban planning experts from all over China were immediately summoned to Tangshan, and the first version of the Master Plan of Tangshan, Hebei Province (1976) was completed in less than 100 days. In 1978, experts were reconvened to deepen and adjust the Master Plan, and made detailed Subject Plans under the Master Plan that could be implemented. These two versions of master plans are collectively known as the Tangshan Post-earthquake Reconstruction Planning. This project appeared in the transition period of modern urban planning and development in China. It marked the end of the period when the urban planning work stagnated due to various political reasons, and the beginning of the period when the urban planning work was fully restored nationwide. Previous studies mainly focused on the thoughts of Tangshan Post-earthquake Reconstruction Planning and its spatial implementation results, which makes it only be treated as a successful post-disaster reconstruction planning. Few researches were done from the perspective of the development of modern urban planning history in China, and the historical status of Tangshan Post-earthquake Reconstruction Planning did not draw enough attention. This paper aims to highlight the significant historical status of Tangshan Post-earthquake Reconstruction Planning, and underline the critical impact on the development of modern urban planning discipline in China. The planning process, planners and planning scheme are systematically studied. Moreover, this paper attempts to analyse the possibility of identifying physical space of Tangshan as planning heritage.

Keywords

urban planning history, Tangshan, Tangshan Post-earthquake Reconstruction Planning, planning heritage

How to cite

Zhu, Chengyu; Baihao, Li; "Re-evaluating Tangshan Post-earthquake Reconstruction Planning: The Legacy of Modern Urban Planning in China". In Carola Hein (ed.), *International Planning History Society Proceedings*, 19th IPHS Conference, City-Space-Transformation, TU Delft, 5 - 6 July, 2022, TU Delft Open, 2022.

Study on the History of Public Bathhouse in Colonial and Post-War Taiwan

Masaya Sammonji
The University of Tokyo

Abstract

Public bathhouses are a characteristic urban facility in Asian cities and have been given an urban management role in improving sanitation and providing entertainment. Public bathhouses also embody urban resilience, as they support people's livelihoods when infrastructure collapses due to disasters. This paper focuses on Taiwan as a former Japanese colony, and organizes the history of public bathhouses in Taiwan chronologically from the Japanese colonial period to the post-war period, in order to clarify their position in colonial urban planning. Newspapers, magazines, maps, and official documents from each period were used in the analysis. In Japan, many public bathhouses have existed since the 16th century. Many of them were privately run and still exist today. There is also a similar history of public bathhouses in mainland China. On the other hand, before 1895, there was no custom of bathing in public in Taiwan and no public bathhouses existed. After the beginning of Japanese colonial rule in 1895, many public bathhouses were opened due to the needs of Japanese settlers. Initially, they were run and used by Japanese, but gradually, local Taiwanese also began to use them, and at the beginning of the 20th century, Taiwanese started to run them. Because of their commercial success, most of the public baths were privately owned and run with private capital. In the middle of the Japanese colonial period, the government began to set up various rules to control the public bathhouses, and gradually the number of government-run public bathhouses increased. The Japanese colonial government regarded public bathhouses as an important urban facility to develop "citizens of a clean and bath-loving country", and achieved a policy of actively increasing their number in the city. However, after the end of Japanese rule in Taiwan in 1945, most of the public bathhouses did not continue to operate due to the withdrawal of Japanese bathhouse operators from Taiwan and the influx of people from mainland China who were not familiar with the bathing culture. Nowadays, almost no public bathhouses remain in Taiwan. Comparisons with other regions are also interesting and will be described in this paper. The first is with Korea, another former Japanese colony, where public bathhouses were maintained by the local residents to the present day. The second comparison is with Hong Kong, where a plague epidemic broke out in 1894. In Hong Kong, the first public baths were built by the British colonial government in 1903 and were used mainly by poor Chinese workers. From the point of view of urban planning history, the existence of public bathhouses can be regarded as revealing the realities of the development of the urban

environment in the colony and creating a real picture of the people living in that period. This paper provides a new evaluation of the existence of public bathhouses in Taiwanese cities from the perspective of urban planning theory, a new perspective on the planning history of Asian colonial cities, and suggestions for the future management policies of public bathhouses and other urban facilities.

Keywords

Public Bathhouse, Taiwan, Colonial City, Asian Urban Morphology

How to cite

Sammonji, Masaya; "Study on the History of Public Bathhouse in Colonial and Post-War Taiwan". In Carola Hein (ed.), *International Planning History Society Proceedings*, 19th IPHS Conference, City-Space-Transformation, TU Delft, 5 - 6 July, 2022, TU Delft Open, 2022.

An analysis of the historical context and architectural style of Beijing Zoo from the perspective of modernity

Wenhui Hu, Yuan Sun
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Abstract

The predecessor of Beijing Zoo, the Farm Experimental Site of the Capital City (hereafter referred to as the Garden), was established in the 32nd year of the Guangxu Dynasty (AD 1906) and opened to the public in 1907. As the first royal garden opened by the supreme ruler of China and the earliest park in Beijing, All Animal Garden has changed people's way of life and leisure for a long time. It has released people from the narrow closed space, and people seek beauty and spiritual sustenance in the public space. On the other hand, the western park construction mode had a leading significance for the large-scale park opening movement in Beijing after the founding of the Republic of China, which was learned from the management philosophy and management methods of European countries. After the establishment of the Republic of China, with the development of municipal movement, in order to speed up the process of Modernization of China, the establishment of parks has become an important part of municipal government construction. As the ancient capital of five dynasties, Beijing has congenital advantages. There are many imperial gardens and temples. Transforming them into parks and opening them to the public can not only reduce construction costs, but also meet the curiosity of ordinary people on gardens that have always been forbidden. It can also show the opposite attitude of the Republic of China and China's feudal dynasties, and show the world that they are social reformers representing the public interest through the opportunity of opening the park. This also makes Beijing modern park different from other parks built later. It not only contains the design ideas of Chinese classical style gardens, but also absorbs the construction experience of foreign parks, forming a unique park mode. This article attempts through the study, led by all holy gardens, the park opens to the public during the period of the Republic of China's social background, the development and space form, to analyze how to change the cities of Beijing, from politics, business, culture shows how it has affected the modern people's moral education, intellectual education and the development of sports and other aspects. This paper tries to analyze the problems existing in its development so far, and how to achieve sustainable development in the process of rapid urbanization and maintain the ecological balance of future urban development and how to continue and carry forward its historical and cultural value in the future.

Keywords

modern park, modernization, All Animal Park, public space, park opening movement, heritage

How to cite

Hu, Wenhui; Sun, Yuan; "An analysis of the historical context and architectural style of Beijing Zoo from the perspective of modernity". In Carola Hein (ed.), *International Planning History Society Proceedings*, 19th IPHS Conference, City-Space-Transformation, TU Delft, 5 - 6 July, 2022, TU Delft Open, 2022.

The transformation of scenery to landscape in Zuber wallpapers from a cross-cultural perspective

Yuan Sun, Zixin Wu
Beijing Jiaotong University

Abstract

As a pioneering type of industrial printmaking, wallpaper is a record of the landscapes of different cities in different countries and is the focus of our inquiry into the development of cityscape art. This paper takes Zuber&Cie wallpaper as an example, firstly, it briefly describes the development of wallpaper from a mere decorative commodity to a redesigned natural landscape painting in the 19th-20th centuries, and compares the process of transformation of land to landscape in Zuber wallpaper, i.e. the transformation process of scenery to landscape, and at the same time, by analysing the selected paintings in The second is an interdisciplinary analysis of the narrative content and narrative techniques used in Zuber's wallpaper painting using art historical research methods such as iconography and formal analysis. Finally, a cross-cultural perspective is adopted to examine the historical and socio-political significance behind the transformation of the landscape from a pastoral rustic to a national park and its cultural transmission and change as a result of international trade.

Keywords

cross-cultural, landscape preference, wallpaper, landscape painting, cultural change

How to cite

Sun, Yuan; Wu, Zixin, "The transformation of scenery to landscape in Zuber wallpapers from a cross-cultural perspective". In Carola Hein (ed.), *International Planning History Society Proceedings*, 19th IPHS Conference, City-Space-Transformation, TU Delft, 5 - 6 July, 2022, TU Delft Open, 2022.

DOI: 10.7480/iphs.2022.1.6526

INTRODUCTION

The tradition of using wallpaper in Europe dates back to the ancient Roman period, initially by covering walls with fabric to keep warm, and then slowly evolving into an essential element of interior decoration. Scenic wallpaper originated in China in the late 17th century, and in the 17th and 18th centuries, as a result of the boom in maritime trade, Chinese wallpaper was exported and enjoyed by the European aristocracy for its fine craftsmanship, bright colour sheen and pleasing ornamentation. These non-repetitive fresco-like scenes were usually produced in groups of twenty to forty, with popular themes including scenes of landscape and people, birds and flowers and scenes of domestic life. The popularity of Chinese wallpaper in Europe reached its peak after the mid-18th century, in keeping with the Rococo style of the time[1]. Chinese landscape wallpapers could be considered the inspiration for French landscape wallpapers of the 19th century.

In the second half of the 19th century, many urban buildings that internalized the external landscape, such as streets with arcades, museums, and trade centers with various store corridors and windows inside, became popular in major cities in Europe and America. These urban buildings seek to embrace the original external landscape with internal space, thus highlighting the expressiveness, diversity, and cross-regional nature of the internal space. The widespread spread of this "interior" style of architecture has led to a significant increase in the demand for and quality of wallpaper. In this context, Zuber Panorama wallpaper was born.

THE HISTORY OF ZUBER WALLPAPER

Before the advent of photography, a number of illustrated books produced by Western travellers and artists in the early 19th century helped to stimulate public fascination with foreign places. The Englishmen Thomas and William Daniel published the most extensive visual record of India within a few years, Oriental Scenes (London, 1795-1807), in six volumes. Their prints depicted the stunning landscapes and historic buildings of India and introduced viewers to the sites and scenes of the distant land they had dreamed of. French wallpaper makers drew freely from these publications to create panoramic papers.

These painterly wallpapers change the atmosphere of a room, allowing the viewer to be transported to an exotic location or immersed in the exciting history of the period. Produced in full colour and in shades of grey or grey, panoramic wallpapers are generally hung at the eye level of the person in the room. Landscape wallpaper has seen a golden age in Europe and North America since the first decade, and Zuber&Cie is the most popular panoramic wallpaper.

Zuber& Cie wallpapers are part of the French cultural heritage. Founded in 1790 as a paper printing workshop, this French company is now the last manufacturer in the world to produce 'panoramic' wallpaper. This ornate, intricate and detailed wall decorations, called "Panorama", depicting exotic landscapes, decorated the walls of countless 19th century mansions.

The Zuber company printed 25 panoramas between 1802 and 1860, with talented artists such as Pierre Mongin creating realistic, detailed and beautifully coloured wallpapers that are as fascinating today as they were when they were first created. The amount of work and time involved in each panoramic wallpaper is astounding: in 1804, it took Zuber a whole year to produce Zuber's first panoramic wallpaper, Swiss Scenery, using 1,024 blocks of wood and 150 colours. From the time the first wallpaper design was created, the exotic pleasures of a land far from the hustle and bustle of the world were the chosen subject of Zuber's wall accessories. Zuber went on to create the popular and exotic 'Brazilian Landscape', the historic 'North American Landscape', the exciting 'War of Independence' 'Horse Racing' and the classic 'Golden Country'. To this day, Zuber has over 130,000 design files saved and they still hand make papers using their collection of over 150,000 pear wood blocks which are used to create fine textures. Organising and using the blocks is a lengthy process and the number used depends on the complexity of the pattern and the number of colours in each sheet of paper. It could take up to a year to produce a complete set. The woodcuts, carved between 1797 and 1870, were stored in the 15th century vaulted cellars below the factory and are now listed as an important part of the Historic Monuments - France's national cultural heritage.

There is no repetition in panoramic wallpaper, which is one of its characteristics. beautifully detailed, colourful and romantic, Zuber wallpapers are as magical today as they were when they were first created over 200 years ago. They have stood the test of time as symbols of beauty and fine design. Today, however, the art is in danger of becoming extinct. The fragile plates cannot be restored or renewed, as the last French panoramic wallpaper engraver died in the 1970s.

BACKGROUND TO THE FORMATION OF ZUBER WALLPAPER

2.1 THE TRANSFORMATION OF LANDSCAPE TO SCENERY IN ZUBER WALLPAPER

Around 1840, Zuber began producing a large number of panoramic landscape wallpapers featuring lush, uninhabited forests depicting a variety of flora and fauna. zuber's striking gradient-coloured skies were particularly suited to their nature-themed papers. And the large plant scenes reflect the new 19th century fashion for greenhouses, conservatories and exotic plants. A number of illustrated books produced by Western travellers and artists in the early 19th century helped to inspire a public fascination with foreign places. The Englishmen Thomas and William Daniel published the most extensive visual record of India within a few years, Oriental Scenes (London, 1795-1807), in six volumes. Their prints depicted the stunning landscapes and historic buildings of India and introduced viewers to the sites and scenes of the distant land they had dreamed of. The designer Pierre-Antoine Mongin (1761-1827) drew inspiration from the first two volumes of Thomas and William Daniell's Oriental Landscapes to produce the 20 prints in L'Hindoustan (1807). The designer Pierre Antoine Mongin (1761-1827) drew inspiration from the first two volumes of Thomas and William Daniell's Oriental Scenes to produce the 20 works in L'Hindoustan (1807). Several other works were inspired by William Hodge's Selected Indian Scenes (London, 1786-1788). in the Zuber panoramic wallpaper, exotic scenes from several countries of the world, including the United States, Japan,

Brazil, China and India, are shown in the late 18th and early 19th centuries.

Landscapes were already artefacts before they entered art and became works of art. Exotic landscapes were shaped and interpreted as soon as they were perceived as 'landscapes'[2]. Zuber and other landscape wallpaper makers produced mainly figurative landscapes illustrating travels, stories and battle scenes. Through the combined efforts of talented artists such as the French artist Pierre Mogin (who created seven designs), a selection of 'lands' from different countries is selected, somewhat edited and modified according to the usual notion of a beautiful scene, retaining the most characteristic cultural connotations, organising and reducing them to a degree This allows the viewer of the wallpaper to understand its breadth and depth in a single frame or in a brief examination. The panoramic wallpaper North American Scenes, for example, shows scenes from the 1830s in the United States, including New York and Boston Harbours, West Point, the Natural Bridge in the Shenandoah Valley and Niagara Falls.

As the expansion and westward movement that began in the United States in the early 19th century had an impact in the 1920s, the average American became more interested in the sights and sounds of his country than in the worship of European culture. Portraiture, which had a strong European artistic tradition, began to decline and paintings of everyday Americans and native American landscapes became popular. The most popular paintings in the painting market and in art exhibitions were landscapes that were closer to the vibrant American ethos of the time. The landscape painters were concerned with the natural landscape of contemporary America - the American wilderness. Starting with the Hudson River valley on the East Coast, these landscape painters followed the expansion of American territory, extending their brushes across the vast western territories to the Pacific coast, as well as to South America, which Americans coveted and which greatly inspired the American national sensibility.

The Hudson River School was founded by Thomas Cole, who began painting contemporary natural landscapes in the Hudson River Valley in the 1820s. Early Hudson River painters such as Cole and Asher Durand confined their landscape subjects to the northeastern United States, particularly the natural beauty of the Hudson River Valley. For this reason, this school of landscape painting is known as the Hudson River School. However, as landscape painting became more popular, the painters gradually focused on subjects beyond the Hudson River Valley. Painters after Cole and Durand, such as Frederic E. Church, John F. Kensett, (A1bert Bierstadt) and Thom as Moran, began to depict landscapes of the American West, the northern frontier, and even South America. At the height of the American migration to the West, both Bierstadt and Moran followed several expeditions or migrating groups of people deep into the West, recording the magnificent landscapes of the American West with their brushes, and their Western landscapes were extremely popular with the Americans of the time[3].

Landscape, whether as an accessory or as a subject, is a medium of land, land that has been aesthetically processed. The landscape is a medium of exchange between man and nature, between self and other. By analogy, it is like money: it has no value in itself, but it represents a potentially infinite reserve of value. The exotic landscape is a culturally mediated view of nature. It is both a space to be represented and a space to be represented, a frame and a frame to be contained, and the exotic landscape in Zuber's wallpapers, as a land reorganised or or-

ganised by the artistic eye, allows the viewer's absorption of the real or painted landscape to be at the same time entertaining, aesthetic, and spiritual.

The North American Landscape and the War of Independence in Zuber's wallpaper are therefore a selection of classic American Wild West landscapes. Digging deeper into the cultural changes behind them we find a process in which the United States was essentially an agricultural country from its independence until the first half of the 19th century. The new territories acquired by the United States from 1803 onwards were vast and resource-rich, attracting more and more Americans to the West. The expansion and westward movement brought rich material rewards to the United States, and as the western agricultural states expanded in area and grew in population, these new farms and plantations gradually became the main growth area of the American economy. Economic strength contributed to the gradual dominance of the agricultural forces of the West and South in the contest with the industrial and commercial forces of the Northeast. In the midst of this economic growth, the American frontier was stimulated, and the wild west stimulated a reorientation of the relationship between man and nature. "Transcendentalists believed that nature was not an inanimate mechanical being, but a living being that embodied the spirit of God. Nature could nourish the human spirit, and one should be one with nature in order to become a perfect human being[4].

The "transcendentalist" mindset occurred almost simultaneously with the American spirit of frontier exploration, both of which were centered on the American land or phantom night nature. If the spirit of the frontier greatly stimulated the American idea of the nation-state, the "transcendentalist" thinking that prevailed at this time taught Americans to contemplate and appreciate the immensity and beauty of the native wilderness. By the mid-nineteenth century, the wilderness had changed in the American mind from an unpleasant object to be conquered to a symbol of America, large and magnificent enough to rival the long history of Europe. As Americans turned their eyes to the wilderness of the West and the nature around them, and as expansion, pioneering and contemplation of the land and nature became themes of American spiritual life, the resulting sense of identity also became a divide between American and European cultural perceptions.

On this basis, in the mid-nineteenth century, a cultural identity based on the 'spirit of the wilderness' was formed in the United States, driven by the 'transcendentalist' ideas of the East Coast intellectual elite. However, this cultural concept did not go beyond the Western notion of Romanticism, and therefore, although it was widely accepted within the United States, it was not influential in the European world. Moreover, this ideal, which was rooted in an agrarian society, could hardly withstand the tide of industrialisation. As a result, by the second half of the nineteenth century, this cultural consciousness was quickly lost to the sweeping tide of industrialisation.

In the late 19th and early 20th centuries, the European concept of modernism was introduced to the United States. From this period onwards, the modernist concept began its tortuous journey in the United States. The 1920s and 1930s also saw the emergence of a massive cultural revolt in the United States, with Americans seemingly wandering back to the late 19th century overnight. Eventually, the American middle-class elite made the idea of modernism the domi-

nant ideology in the United States. And America developed its own elite culture.

2.2 DIFFERENCES IN LANDSCAPE PREFERENCES BETWEEN EAST AND WEST

In the early 1970s, R. Kaplan and S. Kaplan proposed a framework of environmental perceptions that linked the evolution of human cognitive abilities to landscape preferences. Landscape preference is an assessment process to determine the extent to which the public prefers a landscape. Landscape preference emphasises the emotional and cognitive experience of the landscape for people, adding to the ecological attributes of the landscape. The Kaplans' theory of landscape preference identifies consistency, complexity, legibility and mystery as the four information elements that establish environmental and landscape preferences.

Landscape images are the medium and vehicle for determining the public's landscape preferences, and landscape photography truly reflects the ecological information of the landscape environment, providing a strong scientific basis for the assessment process. Unlike landscape photography, landscape paintings reproduce the observer's perceptual perception of the landscape environment, focusing on the observer's aesthetic emotions and providing an effective way to explore the observer's aesthetic perception of the landscape. Therefore, the analysis of the visual and psychological aspects of landscape paintings is a well-documented and feasible method to study the landscape preferences of observers[5].

ZUBER WALLPAPER PICTORIAL STUDY

3.1 NARRATIVE CONTENT

Studied, the subjects of zuber panoramic wallpapers can be divided into several main types: history, war, landscape, religion, etc.

3.1.1 HISTORICAL, WAR THEMES

The largest number of panoramic wallpapers surviving today are on the subject of history and war, and are also the subjects that use the most modern technological and artistic means, and the related paintings have left many masterpieces in the world's art history. For example, Britain was more than happy with naval battles, and in the 18th century the British painter Barker painted "The Battle of Abu Ghir Bay", which was widely acclaimed; the French painter Pierre Prévot created "The Retreat of the British Army from Toulon in 1793" in 1800, etc.; the French painter Langlois also painted "The Battle of Moscow" and "The Great Fire of Moscow" in the same - period. Under the influence of these panoramic paintings, the creation of zuber panoramic wallpaper also has more historical war themes, the eternal nature of this subject itself also determines that it is more suitable for the creation of panoramic wallpaper to express, such as the emergence of the American War of Independence, the Spanish colonial period, etc. To a certain extent, it also records the habits of the people at that time and the historical and cultural landscape of different regions.

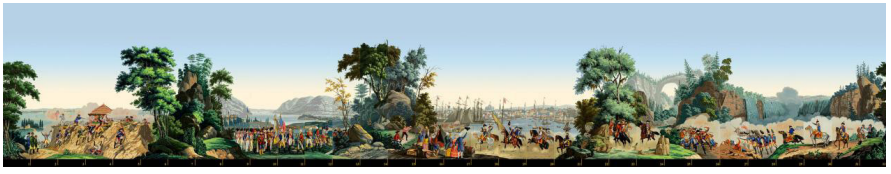

Fig. 1. The North American Landscape)

Designed by Jean Julien Deltil (1791-1863), Zuber presented North American Scenes (fig. 1) in 1834. The entire panoramic wallpaper uses 1,690 print blocks and 223 colours, totalling 49 feet. It is a French depiction of the New World in the 1830s, with several idealised scenes. It begins with New York Bay as seen from New Jersey; a grand stagecoach passes by leisurely strollers. In the next scene, cadets from the United States Military Academy form a procession along the Hudson River at West Point, with the Catskill Mountains in the background. The Catskill Mountains are in the background. This is followed by a spectacular view of Boston Harbor. Next, the Natural Bridge in Virginia forms the backdrop for a mixture of Native Americans, free African Americans and white people of European descent. Julien's depiction of a free mixture of European and African Americans, with Native Americans performing in front of both groups, certainly reflects the inaccurate times of pre-industrial life in America. In 1834, however, this harmonious interpretation offered a romantic panorama fit to hang in a home and in line with many European views of North America as a remarkable social experiment set in a magnificent landscape. Finally, the landscape culminates with a sublime natural wonder, Niagara Falls, the ultimate tourist destination in North America.

The Falls is the ultimate tourist destination in North America. At the time, steam-powered boats were a technological marvel. A technological marvel at the time, steam-powered boats pushed past the Falls. Views of North America were particularly popular with Europeans, who were fascinated by the emerging democracy and its intriguing landscapes and vistas. These scenic wallpapers later appealed to American audiences who saw them as nostalgic portraits of pre-industrial American life. In the late nineteenth and early twentieth centuries, it was posted in homes and hotels.

During the tenure of US President John F. Kennedy, First Lady Jacqueline followed the advice of historian Henry Francis du Pont to use the antique panoramic wallpaper North American Scenes in the decoration of the White House diplomatic reception room.

3.1.2 LANDSCAPE SUBJECT MATTER

Panoramic wallpapers first began by depicting landscapes and showing the face of cities. For example, the British painter Barker's 'Edinburgh Landscape' and 'London Landscape' both focus on depicting the landscape of a city. From the 200-year history of landscape wallpaper depiction in Europe and Australia, a large number of historical cities were depicted, presented and supplied for viewing, such as Rome, Pompeii, Florence, Jerusalem, Athens, Cairo and others[6]. The first Zuber panoramic wallpaper was the Swiss Landscape painted by talented artists such as Pierre Mongin in 1809 (see fig. 2). The painting, which depicts a romantic scene in the Swiss Alps in a delicate, realistic tone, was originally intended to promote the region's scenery with a view

to boosting tourism there. As a result, many people saw it and decided that it was a great way to see the scenery and save them the trouble of travelling, which led to a boom in panoramic frescoes. It was this trend that provided the conditions for the rapid development of panoramic frescoes in Europe at the time, and as a result, a large number of painters devoted themselves to the creation of panoramic realistic works of famous cities and places.

A Distant Place (fig. 3), first produced by Zuber in 1825, at a time when landscape gardens were becoming increasingly popular. Such gardens originated in England in the 18th century and evoked a romantic view of untamed nature. This novel garden style soon spread to the European continent, replacing the formal symmetrical garden of the English style. This landscape wallpaper depicts a vibrant garden with classical architectural elements throughout. Offering the illusion of being surrounded by a beautiful garden in one's own home, Les Lointains is intended to provide a calming, tranquil effect. Each detail requires an individual woodblock, and eleven colours were used to create 'A Faraway Place'. This version also includes a yellow dye. A Distant Place also offers a shade of green and an off-white colour with coloured flowers sprinkled across the foreground.

Panoramic wallpapers of landscape subjects subtly blend a mountain, a rock and a vast expanse into a single image, so that the character and mood of the mountains, rivers, towns and villages can be appreciated far better than if you were only inside the landscape[7].

3.1.3 RELIGIOUS, MYTHOLOGICAL AND OTHER THEMES

Early works of art were closely related to religion, both in the East and in Western Europe, and they made an indelible contribution to the externalisation of religious teachings and the interpretation of images. In the West, Greek mythology occupies an important place in the history of Western art[8].

3.2 NARRATIVE TECHNIQUES

3.2.1 THE NARRATIVE TECHNIQUE OF ROTARY CONTINUITY

In general, circular panoramic frescoes are composed in a cyclical narrative, which allows the viewer to see the whole scene from one place. In a circular narrative, the viewer only needs to stand in a central position to follow the author's narrative and appreciate the work in its entirety[9]. In addition, in such a viewing environment, the viewer's object of reference is usually erased and the visual context is recreated in a holistic manner, allowing the viewer to 'be there' in an enclosed space that is connected at the beginning and the end. According to the analysis, we can see certain features of the revolving continuous narrative technique, in which the landscape is depicted with street scenes, rooftops, urban areas, or houses of various colours connected one to the other in the near distance, presenting the urban landscape one by one. This circular layout forces the viewer's eye to rotate 360 degrees, thus immersing him or herself in the visual atmosphere created by the image. For example, in Swiss Scenery, the entire mountain range and lake are laid out in a circular pattern, allowing the viewer to take in the entire landscape[10].

Fig. 2. Swiss Landscape

Fig. 3. A Distant Place

3.2.2 LINEAR PROGRESSION OF NARRATIVE TECHNIQUES

Panoramic frescoes are, after all, a kind of temporal and spatial reproduction, a visually oriented and comprehensive art, so the linear progression of narrative remains an important form of plotting. In film, television and literature, we can often find flashbacks and interludes that make the plot more convoluted and evocative. In the case of paintings, however, this has its limitations. In the case of panoramic frescoes, the narrative is mostly developed in a linear progression, due to the particular way in which they are viewed and the characteristics of the painting. For example, in Eldorado, a South American city is depicted, with various buildings appearing in the picture in a linear progression; in The War of Independence, the events of the war are depicted in a progressive manner, following the real logic of the events. All of this stems from the fact that the aesthetic intent of panoramic murals is to achieve a sense of immediacy, and if they do not logically correspond to the reality of events, they are prone to confusion and are difficult to reconcile with the aesthetic habits of the public[11].

CONCLUDING REMARKS

From its beginnings as a marginal field of study in architecture, landscape has evolved into a discipline that encompasses multiple attributes and is both a science and an art. Taking Zuber & Cie wallpapers as an example, this paper first briefly describes the development of wallpapers from a mere decorative commodity to a redesigned natural landscape in the 19th and 20th centuries, and compares the transformation of land into landscape in Zuber's wallpapers, i.e. the transformation of landscape into scenery. The second is an interdisciplinary perspective that uses iconography to explore the differences in landscape preferences between the East and the West. The second interdisciplinary perspective uses art historical research methods such as iconography and formal analysis to analyse the narrative content and narrative techniques used in Zuber's wallpaper paintings. As the shape of artistic styles is influenced by many factors such as social, historical, political, cultural and technological factors, the landscape is studied from a broader perspective. The iconographic study of landscape treats

landscape as a product of art and culture in visual form, with landscape generally presented as a visual image. This paper takes iconographic studies as a perspective on the research topic, seeking to sort out the development of Western landscape in different historical stages since the Renaissance from a more holistic and deeper perspective. Finally, it adopts a cross-cultural perspective to examine the historical and socio-political significance behind the transformation of landscapes from rustic pastoralism to national parks and their cultural transmission and change as a result of international trade. The paper seeks to find new ways to enhance the impact of landscape, to expand the perspective of landscape studies, to look beyond the superficial formalism of wallpaper to the underlying causes of its composition, and to positively influence the future development of landscape.

ACKNOWLEDGEMENTS

Thanks to everyone who helped me.

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6 JULY: SESSION 2.1

THE RESILIENT CITY.

Chair: Gabriel Schwake

Urban Development in Shibuya and the Resilience of Local Communities in a Crisis

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Abstract

Since 2003, Tokyo has been implementing the Urban Renewal and Urgent Development Policy, which promotes development by constructing numerous high-rise buildings around major stations and concentrating industrial and recreational areas. It is a plan to strengthen international business center functions, transportation infrastructure, and residential performance in response to inter-city competition in Asia. Shibuya ward has also been undergoing large-scale development of its station area under this policy since 2005, with the construction of Hikarie in 2012 and Scramble Square in 2019 where commerce and business are concentrated on the nexus of numerous railroad networks under the concept of the Urban Core. As a result, land prices around the station skyrocketed, the daytime population increased rapidly, and the general residential areas that existed until the 1970s rapidly disappeared, shrinking the daily living area of local residents and hollowing out the local community. However, the Corona pandemic has led to a reevaluation of the logic of urbanization that supported Japanese modernization. The spread of remote work, the desire for better living spaces and local communities, the tendency to reconsider the form of the family, and the fragility of residency rights all point to the need to reexamine the relationship between housing and the city. In this current situation, we noticed that the role of the remaining local communities in sustaining the livable area, though small in scale, is being reconsidered in the Shibuya area. In the old remaining residential areas, or that have been formed by new types of residents, a variety of interactions and mutual aid are sprouting up, centered on neighborhood associations and residents' organizations. This is not a nostalgic yearning for a village within a city, but a practical activity based on cooperation between the government, businesses, and residents, fostering local people's attachment and engagement to their communities. Looking back at the history of post-war reconstruction of Shibuya, the residents desired the formation of Shibuya as an "educational district" immediately after the war. There were the war reconstruction city plan with the image of a garden city by Kiyoshi Ikebe, the plan around Shibuya station following the image of Le Corbusier's "shining city" by Junzo Sakakura in the 60's, and the image of a "new urban ground" by Shozo Uchii in the 70's. It shows that the coexistence of healthy suburban housing and the city was always assumed and shared among people. The reevaluation of the local living area seen in Shibuya in Corona pandemic seems to indicate that people have inherited this ideal image of the region as their original landscape. This paper examines the

history of changes in the development ideas of Shibuya from the postwar period to the present and considers how the sustained activities of the local community and the image of the area have compensated for the fragility of the logic of economic urban development, and what implications this has had for its resilient regeneration.

Keywords

urban renewal and urgent development, urban core, local community, corona pandemic, original landscape

How to cite

Kuroishi, Izumi; "Urban Development in Shibuya and the Resilience of Local Communities in a Crisis". In Carola Hein (ed.), *International Planning History Society Proceedings*, 19th IPHS Conference, City-Space-Transformation, TU Delft, 5 - 6 July, 2022, TU Delft Open, 2022.

Architects and the Atomic Age
The Atomic Energy Commission and the debate on urban dispersion

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Abstract

At the dawn of the atomic age the US architectural scene was shocked to the awe and devastation brought by the atomic bomb and was quick to adapt it thinking on city planning. As early as December 1945, Alfred Caldwell was proclaiming in a feature article of the Journal of American Institute of Architects: "Now we have a weapon that makes cities the most dangerous place in the world." For Caldwell, as well as Hilberseimer and a growing group of advocates, decentralization was the only rational solution to civil defence in the wake of the US bombings at Hiroshima and Nagasaki. In the following years, this direction for dispersed urbanism was propagated by the mass architectural media of the time and institutionalized through workings between the American Institute of Architects and the US Atomic Energy Commission of 1946, the gubernatorial agency for the promotion and regulation of atomic energy to all facets of US industry. But a counter-argument to urban dispersion was also harbouring among the architectural community, namely by architects such as Josep Lluis Sert, who having taken the lessons of the US CIAM to his heart stood in defense of central city areas and "the historical pattern of towns." This paper traces the history of this debate on urban dispersion and investigates the connections between administrative, academic, media, and professional bodies that interconnected and conditioned the architectural matters of the time.

Keywords

Atomic Energy Commision, American Institute of Architects, US Modernism, Josep Luis Sert, Elisabeth Kendall Thompson

How to cite

Panigyrakis, Phoebus Ilias, "Architects and the Atomic Age: The Atomic Energy Commission and the debate on urban dispersion". In Carola Hein (ed.), *International Planning History Society Proceedings*, 19th IPHS Conference, City-Space-Transformation, TU Delft, 5 - 6 July, 2022, TU Delft Open, 2022.

DOI: 10.7480/iphs.2022.1.6735

1. INTRODUCTION

The phenomenon of urban dispersion in post-world war II USA, and the popularization of low density community planning was a direct result of civil defence planning choices and directives against the possibility of atomic warfare. In fact, the convergence and correlation of planning and civil defence in the context of post-world war II US planning has been already documented (shortly but sufficiently)[1]. There is however a third phenomenon coinciding that is here being added to the discussion and gains the focus of particular interest: the institutionalization of the architectural and planning professions that was at the time in its final phase of completion. The basic premise of this article is that the history of this particular architectural debate showcases the systematization of new institutions as the main channels for architectural discourse and as intermediaries between the profession, the government, and the general public. As such, this paper explores the debate on urban dispersion at the outcome of WWII by individual architects and planners[2] for or against urban dispersion as well as formal directives from the government's own Atomic Energy Committee supported by the American Institute of Architects and all major architectural periodicals. An underlying narrative here is crystallization of architectural discourse from an exchange of individuals' proposals and argumentations to a more formulated mode conditioned by professional organizations, media, and the specialized governmental agencies.

2. FIRST VOICES IN REACTION TO ATOMIC WARFARE

2.1. *THE NEW CITY*, 1944 BY HILBERSEIMER ET AL.

The first voice amongst architectural circles of mid-century US with regards to the relation between atomic warfare and urban planning was a pre-emptive reaction from the German emigrant Ludwig Hilberseimer in his project for the "New City" developed through the intra-war years and published in 1944 in book form.[3] There he explored principles of urban planning amongst which decentralization played a pivotal role. His schemes present a concept of a decentralized city in a liner web structure in different scales: from the unit of L-formed houses, blocks and superblocks, cell settlements, to the regional and national level. From one part, decentralization both in terms of planning as well as its accompanying theory of principles and analyses provide a functional problem-solving consideration to the problem of industrialized modern metropolises in terms of: traffic and infrastructure, geological determinates, ecological potentials, crime, smoke pollution and other health factors. [4]

Among these issues the problem of civil defense emerges in a modest but prevalent way: "When firearms were invented, protection of the city confined within its walls became difficult. As firearms were perfected, those walls had to be replaced by forts outside the city. The city area was thereby increased. Modern aerial warfare has made all city concentrations dangerous. Protection in the future must be accomplished by disurbanization and dispersal."[5] And that: "Security can only be achieved by the combination of city dispersion and a high de-

gree of self-sustainable regions able to provide for the needs of their people in war or peace." Arguably, this project can be seen as a continuation of earlier projects at least since 1929 and the *Groszstadtarchitektur* book. However, it gains particular interest since Hilberseimer had been lecturing on "Cities and Defense" to the Chicago Chapter of the AIA since 1941 and was commissioned to curate an exhibition for the post-war future of US cities at the Art Institute of Chicago under the title "The City: Organism & Artifact which opened in October 1944.[6] With the publication of *The New City* emerging in tandem with the exhibition. In the introduction to a subsequent publication, Hilberseimer mentions that the passage on Civil Defense of *The New City* was reworked after the effects of the atomic bomb were published and mentions that the "requirements of military defense may become the deciding factor" in achieving the aims of his decentralized ideal.[7]

Foremost, Hilerseimer's approach remained one of economic determinism in between Fordism and socialist utopia in an effort to portray social order as planning order with any consideration of atomic warfare being one of secondary importance.[8] As Hilberseimer writes: "the low density of the new settlement, its decentralization and openness, and its close connection with the landscape dissolve the distinction between city and landscape. As this distinction fades, there comes into being, not only a framework for a better life, but also a sound pattern for the protection of the population against the destructive forces of aerial warfare.[9] The manner of expression of these first instances of planning discourse by Hilberseimer remained one of sobriety and technical minding distanced from the direct calls for action by the profession of the latter years, but certainly is the main precedent that opened the discourse on the topic of cities and warfare in the atomic age.

2.2. *ATOMIC BOMBS AND CITY PLANNING*, 1945 BY ALFRED CALDWELL

A second reaction in a more direct and in a way more official manner came from Alfred Caldwell in 1945. According to his own account Caldwell read the news of the Hiroshima bombing in the immediate aftermath and communicated with Hilberseimer[10], his mentor and associate at the time: "the world is ruined. I came home and wrote a paper".[11] His article "Atomic Bombs and City Planning" was published in the December issue of the Journal of the American Institute of Architects and as the title suggests advocated for the topic of atomic warfare as a primary concern for city planning. While missing the methodical and intricate proposals of Hilberseimer, Caldwell brought alarming urgency on the table positioning architects and planners to the frontline of atomic warfare: "atomic bombs and concentrated city centres cannot coexist in the same world. Something terrible and new has been added, and cities must be changed. From today on our city, and every large city, can be completely destroyed in a moment."[12] And: "plainly the city, once a place of refuge in times of war, has now become the very place of greatest danger. Naturally, we must do something. To be sure, we can do our best to keep the peace. Still if war comes, there is one defense and probably only one. During the years of peace we could disperse our cities and decentralize our industries."[13] But what is most characteristic of Caldwell's article is the level of sentimentality that was rarely seen in professional magazines, and which also showed the potential that the topic had for AIA's public relations.[14]

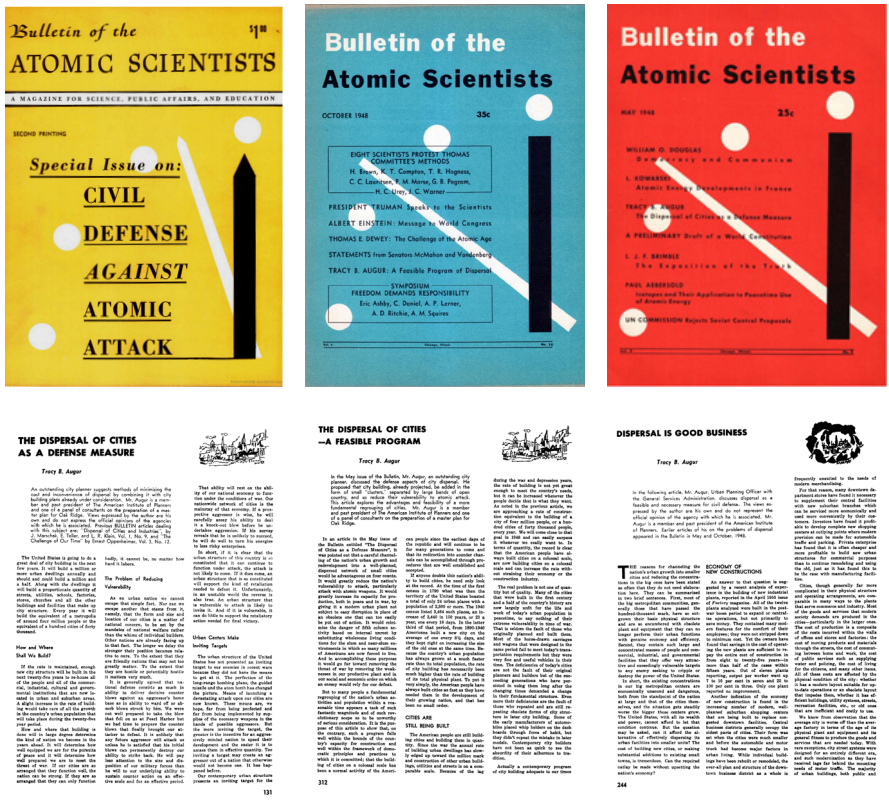

Fig. 1. Tracy B. Augur's 1948 and 1950 articles on urban dispersion at the *Bulletin of the Atomic Scientists* that posited the architectural discourse in a scientiffic and technocratic context and indicated the transitoin from the issue of civil defenes to that of economic and industrial development.

Headlining the cover of the JAIA, Caldwell's article brought the discourse from the academic to the professional level and signalled the intense interest that the AIA developed on the topic, and its gradual position in proximity to the AEC in the short future.

2.3. *DISPERSAL* ARTICLES BY TRACY B. AUGUR, 1948-1950

The distillation of a robust civil defense rationale came with Tracy Augur's article "The Dispersal of Cities as a Defense Measure" that was published concurrently at the *Bulletin of Atomic Scientists* and the *Journal of the American Institute of* Planners in May and July 1948 respectively. Augur himself, a past president of the American Institute of Planners, signaled the standing of architects and planners as experts on the scene of atomic energy. Equal to that of physicists and chemists.[15] In Augur's article peace is in essence introduced as an issue of function and economics of city planning on a national scale: "[Building construction] will determine how well equipped we are for the pursuits of peace and it will determine how well prepared we are to meet the threat of war." [16] Urban dispersion is offered as a strategy for national economy

to function under the conditions of war. The problem is then broken down in terms of target vulnerability and enemy penetration, as well as slum clearance and avoidance of unrest and "internal enemies". Efficiency of economic and industrial activities, expenses, transportation and communication, convenience, pleasantness and "wholesome living" are all brough together in a new image of consumer society as a merging of economy and technocratic planning. The issue of civil defense here is added to the mix of problems of housing shortage, slum clearance, and urban renewal as the argument that is in principle unrejectable and affirms the absolute and urgent turn towards urban dispersion.

The redesigning and rebuilding of whole cities into clusters of well dispersed small cities[17] is for Augur beneficial for all aspects of national economy under the adages of "Strong for war, strong for peace" and "dispersal will pay for itself". As the title of his consecutive article in the Bulletin suggests "Dispersal is Good for Business". The trajectory of this article series also showcases the relation of architectural and planning discourse as useful advocate for political and economic activity. As the expertise agency weighing in on a reconstruction project of national proportions.[18]

If Hilberseimer brought an early warning showcasing the value of in-depth planning, and Caldwell added an alarming relevance as well as sensational communicative prowess, Augur added legitimacy to the proposals of the architectural and planning professions. More importantly, Augur occupied a niche position for the built-environment professionals: that of mediating between politics and economy. This particular aspect of mediation would be further systematized with the founding of the Atomic Energy Commission and its relation with the AIA.

3. ATOMIC ENERGY AND THE PROFESSION

Since the late 1940s this debate on atomic energy expanded further and deeper than urban dispersion into specifics about construction materials, school planning, proper way of obtaining contracts for buildings specialized to withstand atomic blasts etc. More importantly, through the intense involvement of architects into this new field of knowledge and specifically to the Atomic Energy Commission, its ways of operating with the government, as well as its main institution of the AIA was systematized and rendered concrete. Further debates on architectural or planning topics would be conditioned by the institutional representatives and professional media rather than individual/heroic architects and planners.[19]

3.1. "CIVILIAN RATHER THAN MILITARY": THE ATOMIC ENERGY COMMISSION

The United States Atomic Energy Commission, established in 1946 by President Harry S. Truman, became overnight the responsible agency for the development of regulations and directives regarding atomic energy in all industrial fields. Urban planning and architecture included. As the Atomic Energy Act ruled, the Commission was to become a governmental branch reaching out to commerce, industries, and the greater public for the dissemination of the benefits of atomic energy from "civilian rather than military" hands. Until 1977 when it

was dissolved, the Commission reported annually to the US Congress technological and otherwise developments that it undertook, not only with regards to nuclear weapon development and nuclear power management, but also to "improve public welfare and strengthen free competition in private enterprise". In all, the Commission was in charge of envisioning the new era brought by Atomic Energy and while informative, it was also increasingly regulatory in virtually all industrial and professional fields. From the public record of the AEC reports it becomes apparent that architects and planners were brought under the scope of the agency from early on in the process.

3.2. CIVIL DEFENSE AND PUBLIC RELATIONS: THE AIA AT THE AEC

The first mentioning of architects in the AEC reports comes from the Eleventh Semiannual report of 1951. There the executive director of the AIA Edmund R. Purves is listed as member of the Advisory Board of Contract Appeals in order to counsel on contracts and subcontracts and to make recommendations to the General Manager alongside business academics and law officials.[20] By his own account Purves' experience at the AEC was both humbling as well as interesting in the sense that it showed that a new age had come, where the scientific aspects of architecture were being redefined: "Strangely enough my relation with science in architecture has far more to do with the law than with technological advance or scientific experimentation. [...] The agenda consisted of an opening statement by the attorney for the complainant, opening statement by the Government Counsel, direct examination, re-direct examination, re-cross examination, questions by panel members and summing up." [21]

In this technocratic/bureaucratic setting, Purves witnessed architecture's potential:

" time and time again in those hearings I have heard the attorneys say, when the architects' documents were put on the table, "This is the way the architect said it is to be done" and that would end the argument. Such statements were never refuted, possible due to the fact that there happened to be an architect, myself, sitting on the Board."[22]

A second top AIA-official to be mentioned as a regular member in the AEC reports is Frederic A. Pawley, research secretary and technical editor of the AIA Journal. Pawley[23] made part of the Advisory Committee on Industrial Information of 1952 whose aim was to "advise the AEC on disseminating unclassified technological information to industry." From this, a more robust program was defined titled "Technical Information Services" whose primary purpose was to externalize this knowledge.[24] Other than individual mentioning (apart from architects involved in AEC construction activities), architects are mentioned as the target audience of a training/educational program in 1952.[25] Its brief description mentions that: "while considerable information in this field is readily declassifiable, there remains the problem of collecting, organizing, and disseminating the data. The American Institute of Architects has formed a Committee on Architecture in Nuclear Science, addressed to this task, which is collecting information from all sources."

Following the establishment of the AEC (and later the Office of Civil Defense[26]) and the systematic involvement of the AIA, the latter years saw a frequent organization of conferences,

training programs, competitions,[27] and public addresses on topics of atomic energy and their importance to architecture and planning that were simultaneously picked up and commented upon by the national architectural periodicals.

4. "DEBATE" ON ATOMIC ENERGY AND URBAN DISPERSION

At the turn of the 1950s with the first atomic tests performed by the Soviet Union (August 29, 1949) and the start of the Korean war in June 1950, the discussion around atomic warfare became more and more intense. The discussion on urban dispersion became a regular topic in media of architects and planners. While essentially echoing ideas already well-established, the work of these editors did much to amass greater interest around the topic in what may have been a result of the AEC's "informational service" expanded program.

4.1 THE DISCOURSE IN US ARCHITECTURAL MAGAZINES

Architectural Record headed by the interim editor Harold Hauf followed the AEC developments more closely than any other architectural magazine of the time.[28] Hauf –who held indeed considerable expertise in military issues– in a rare instance of a direct editorial-article directly addressed the topic of urban dispersion in his Dec. 1950 "City Planning and Civil Defense". There Hauf called for a two-pronged civil defense program. Which first and foremost would address the immediate need for preparation in case of imminent nuclear war: control of panic, designation of shelter areas, evacuation plans, road clearing, rescue, fire-fighting, and decontamination plans. A second leg of the program played along the prospect of a continued cold-war over an indefinite future and where urban dispersion would play a central role as a war-preventive measure, "since reducing the concentration of industrial facilities and population makes atomic bombardment strategically less profitable, and renders the target less tempting."[29] Brought under a wide perspective Hauf mentions: "Every slum clearance project, housing development, industrial plan, traffic artery or other public improvement should be planned with a view to the military as well as the civil aspects of dispersal."[30]

On a more alarming note, the *Architectural Forum* addressed the topic of atomic warfare with a long and sensationally-illustrated article in November 1950 subtitled "Design Lessons from Hiroshima and Nagasaki." Taking the form of a public broadcast news, the article developed in a simple "Do's and Don'ts" list essentially replicating the recent AEC handbook titled "The Effects of Atomic Weapons" published by McGraw-Hill.

Progressive Architecture was the only one to deliver a more sustained approach with their September 1951 issue. In fact, P/A openly contested the AIA rejecting the need of collaboration with the AEC, before opening up a series of articles by architects debating on the topic:

"The AIA is trying very hard, with several engineers' societies, to arrange some sensible relationship of architectural services to the armed services. There seems no good reasons why the Army or any other military branch should find it impossible to work with architect-engineer

teams in the same professional way that any other hard-headed business client does. The business of shopping for prices and forcing unsatisfactory fee arrangements on the profession is as inexcusable as it would be in the case of a shyster building."[31] To this the editors add that "There is no true defense for people against the bomb, now or in the future, except to make damn sure that no bombs will be dropped."[32]

4.2. AIA CONVENTION 1953

Beyond the magazines, the AIA was itself organizing its own activities. Throughout the 1950s, civil defense and response against atomic warfare was a central topic of regional and national AIA conventions. Most of them addressing technical information subjects like the Nov. 1951 "Radioactivity Laboratory Design" conducted by the "Building Research Advisory Board of the National Research Council" (while sponsored by the AEC and the AIA) and widening the collaboration of design professionals to hard sciences and heavy industries like the 1959 "Science in Architecture" conference of the Arizona Chapter. More interestingly, the October 1953 *Middle Atlantic* Regional AIA Conference on Urban Design and Redevelopment brought the discussion to the specific question of dispersion, now opening up to reactions against it as well. Tracy Augur (by then director of urban targets division of the US Office of Defense Mobilization) led the dispersion thesis with the familiar call for defense as primary concern which "fortunately also serves the civilian planner's goal of greater livability." And on the contesting side against urban dispersion was José Sert Dean of Harvard GSD (and instigator of the first educational program on urban design a few years later). In Sert's opinion architects "cannot disturb the historical pattern of towns". And while some measures can be taken to alleviate the danger or congestion, dispersion was not an option for a nation-wide strategy. According to him, the redevelopment of central city areas was "the architect's big job."[33]

5. CONCLUSIONS

In short the Atomic Energy Commission, as well as the technological, scientific, and industrial developments of the post-WWII era signalled a massive expansion of architectural services whose specialization, influence and promotion were overseen and certified by the AIA. Overtaking the licensing boards as the primary organizations that had a say on what the mondus operandi of the profession, the AIA reoriented the profession towards new markets "in the interest of co-operation and progress."[34] The topic of atomic energy was not only interesting in itself, but as a spearhead of a larger scientific and technocratic turn for the profession, represented by the AIA and its close collaboration with governmental agencies such as the AEC. Regarding the specific topic of urban dispersion, no certain conclusion can be reached as to the extent that the civil defense argumentation brought urban dispersion as the major planning approach. The history of its discourse however, is indicative of the changes that took place with regards to the mediums through which architects and planners expressed and organized themselves.

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ENDNOTES

1. Main sources are: Mathew Farrish's "Disaster and decentralization: American cities and the Cold War" in *Cultural Geographies*, 2003, and Robert Kargon and Arthur Molella's "The City as Communications Net: Norbert Wiener, the Atomic Bomb, and Urban Dispersal" in *Technology and Culture*, 2004.
2. Architects and planners were at the time sharing their professional media as well as their professional organizations such the American Society of Planners and Architects (ASPA) .
3. L. Hilberseimer, *The new regional pattern : industries and gardens, workshops and farms,*Chicago : Paul Theobald, 1949.
4. Denny, P., Charles, W., *Reconsidering Hilberseimer's Chicago*, Urban Planning 2020, Volume 5, Issue 2, p. 243–248.
5. The New City, p. 40.
6. Colman S., "Promoting the new city: Ludwig Hilberseimer and the Art Institute of Chicago, 1944" in: R. Freestone and M. Amati (Eds.), *Exhibitions and the development of modern planning culture,* Ashgate, pp. 111-129.
7. Hilberseimer, L., *The Nature of Cities,* Theobold, 1955.
8. This secondary factoring of the atomic war problem to the primary purpose of social –and socialist– order acquires a clear form in Hilberseimer continuation project of *The New Regional Pattern,*1949: "the atomic age which we are not entering, with its changing forces, will, however inevitably change the problems of planning. It may even help to solve some of the human problems involved." Hilbersemeier, L., *The New Regional Pattern*, Theobold, 1949, xvi.
9. Ibid. 180.
10. Considering that Alfred Caldwell was a pupil of Hilberseimer, their sharing of ideas might be hard to distinguish.
11. Caldwell, A., *Oral history of Alfred Caldwell: Interviewed by Betty J. Blum,* The Art Institute of Chicago, 2001, 76.
12. Domer D. (ed.), *Alfred Caldwell: The Life and Work of a Prairie School Landscape Architect*, The John Hop-

kins University Press, 1997, 177.
13. Ibid. 178.
14. "There is nothing more incongruous than atomic bombs and babies" and "we are men on a doomed planet, and destruction is our domicile at last" are some of Caldwell's most intense statements from the article. Ibid.
15. In fact his article was introduced as a continuation of articles by physicists and economics Marschak, Teller and Klein, and the director of the Manhattan project himself Ernest Oppenheimer.
16. See: Marschak, J., Teller, E., Klein, L.R., "Dispersal of Cities and Industries", *Bulletin of the Atomic Scientists,* Vol. 1, No. 10, 1945. Oppenheimer, E., "The Challenge of Our Time," *Bulletin of the Atomic Scientists,* Vol. 3, No. 10, 1947.
17. T. Augur, "The Dispersal of Cities as a Defense Measure" in *Bulletin of the Atomic Scientists,* 131-134.
18. Ibid. 134.
19. The whole issue of the Bulletin of the Atomic Scientists of Aug.-Sep. 1950 is quite an interesting paradigm of the alignment of scientific disciplines to a common strategic political and economic undertaking.
20. Books like Neutra's "Survival through design" (1954) and Sert's "Can Our Cities Survive" (1942) continued to bring to the public audience the individual architects' takes on the subject, but had limited impact with regards to regulatory developments for the profession. The end of the US CIAM (to which both publications where linked) signaled the passing of the main professional initiatives to the AIA, architectural magazines, and their network to the US Congress and governmental agencies like the AEC, rather than professional collectives and academic networks.
21. Policy handbooks such as the "Guide for Contracting and Related Engineering Services" are also related to this Board.
22. Edmund R. Purves, "Report to the Conference," *Arizona Architect,* Vol. 3, No 3, November 1959, p. 22.
23. Ibid. 23.
24. Pawley also served as an advisor to the Operation Upshot–Knothole nuclear tests of March to June 1953. Another AIA member, Bernis E. Brazier, was part of the Evaluation Team. Source: J. B. Byrnes, *Report to the test director : effects of an atomic explosion on two typical two-story-and-basement wood-frame house,* United States. Federal Civil Defense Administration, 1953.
25. The service's description also mentions: "the products of technical information operations are cumulative as more and more information is collected, processed, disseminated and indexed. But to assure maximum usefulness, many special informational programs are necessary." Such "special programs" might be the symposia, handbooks, and committees organized by the AIA in the following years. *Eleventh Semiannual Report of the Atomic Energy Commission,* January 1952, p. 45.
26. *Annual Report of the Office of Civil Defense,* United States Government Printing Office, 1962, p. 36.
27. The educational program of architects was later expanded through the newly formed OCD where a department on architectural training was established in its founding organization chart, with its complete title being "Professional Development of Architects and Engineers." The description mentioned that the "the ultimate objective is to develop the profession's capability of' the Nation's architects and engineers to plan and design protective structures" and the production of manuals, courses on protective structures, guides on planning and designing schools, hospitals, churches, and apartment houses; design studies of definitive plans and details; technical memoranda etc. Ibid.
28. For example, an AIA school design competition was organized in 1962 for a fallout shelter for demonstration and promotion purposes with more than 600 design proposals. *Annual Report of the Office of Civil Defense,* United States Government Printing Office, 1962, p. 38.
29. Elisabeth Kendall Thompson, senior editor of the Record was a registered member of the AEC since the early 1950s.
30. Hauf, Harold, "City Planning and Civil Defense", *Architectural Record,* December, 1950.
31. Ibid.
32. Progressive Architecture, Sept. 1951. p. 1.
33. Ibid. 80.
34. *Architectural Record,* Dec. 1953, p. 10.

Habiter l'Habitat
Towards an ecological resilient urban lexicon

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Abstract

The paper is focused on the interdisciplinary and cross-cultural paradigm of "habitat" - as anthropological and ecological interdependency between domestic space and its environment. Since the mid 20th Century, our built environment has faced a long totalising-planetary urbanisation process, which urges us to review the old conventional urban-architectural categories we use to describe and understand our cities and countryside. In front of the urgency of a more inclusive understanding of our built environment, this paper sheds more light on the paradigm of Habitat as an interdisciplinary urban lexicon, as it gained momentum in post-war urban thinking and has influenced urban design ever since. The paper holds that the post-war discussion on Habitat represented a unique moment in which interdisciplinary thinking on the built environment became central. The paper shows alliances and resonances between the post-war CIAM's discourse on Habitat and other coeval sociological and philosophical studies to delineate a complex theoretical framework. Beyond the parameters and boundaries that have been considered and presumed conventionally within ordinary urban design and social science, the paper focuses on the complex interdisciplinary meanings, interpretations, and translations regarding the paradigm of post-war Habitat as a complex social and spatial notion which encompasses the human settlement as a whole.

Keywords

Urban Design, urban lexicon, habitat, CIAM

How to cite

Zuccaro Marchi, Leonardo; "Habiter l'Habitat: Towards an ecological resilient urban lexicon". In Carola Hein (ed.), *International Planning History Society Proceedings,* 19th IPHS Conference, City-Space-Transformation, TU Delft, 5 - 6 July, 2022, TU Delft Open, 2022.

DOI: 10.7480/iphs.2022.1.7112

INTRODUCTION

LIVING IN A CONTRADICTORY CONDITION OF PLANETARY URBANISATION

The challenging scenario of a "planetary urbanization" has taken place concretely and critically over the last decades. "Society has been completely urbanized," as the sociologist and philosopher Henri Lefebvre already hypothesised in "La Révolution urbaine" (1970). "This urbanization is virtual today, but will become real in the future"[1] and now that time has come. Facing this contemporary and contradictory urban scenario, old categories and definitions of the built environment are either no longer viable or out-dated. In the face of the difficult legibility and the dissolution of the contemporary urban elements, our traditional images of "urban" and "city", "rural" and "countryside" – inherited from the last century - are obsolete now. As already recently highlighted by several researchers on urban studies, such as the urban theorist Neil Brenner and the geographer-sociologist Christian Schmid, we require an epistemological-conceptual shift towards a new theoretical framework.[2] It is important to surpass the parameters and boundaries that have been considered and presumed conventionally within the ordinary urban design and social sciences disciplines. In this perspective, the research on Habitat that was established in the 1950s and 1960s in the field of architecture/urban design and other disciplines - and since forgotten – is urgent also to address and to decipher the current urban processes that are emergently reshaping our urban world.

HABITAT – ECOLOGICAL LEXICON.

The contemporary ecological crisis has turned into "profound alteration of our relation to the world"[3] which requires new critical perspectives on the relationship between human beings and their physical surroundings. It forced an environmental ethic shift from anthropocentric (human-centred) to ecocentric (earth-centred)[4], focusing on the environment as a system of interrelationships of finite entities. The same 'ecology' was described by German biologist Haeckel (1866) as "the science of 'relations' between the organism and the surrounding outer world." In Architecture, Habitat introduced this relational-contextual idea through interdisciplinary nutrients of architecture like urban geography, ecology and sociology. Habitat initiated a broader approach within urban design thinking where the built environment was looked upon as a coherent, complex ecological system, with a brand new ecological and anthropological inclusive attention.[5]

In particular, in the post-war period, *the architectural debate on Habitat shifted the focus from the autonomy, isolation and differentiation of zones of cities and buildings, to the* interdependency between domestic space, city and environment. *It shifted from the Greek oikos - house - as a distinct building function to* oikos*-ecology as the "study of the Earth Household."*[6] *Human Habitat as the "whole problem of environment,"*[7] re-positioned architecture and urban design within a more inclusive, holistic, and socio-ecological approach. At the same time, it grounded architectural discipline into the interdisciplinary climatological-geographical, organic-biological and anthropological-sociological exploration of the urban landscape. The discussion on Habitat represented a unique moment in which a trans-disciplinary thinking became central.

CIAM AND HABITAT: A PRODUCTIVE AMBIGUITY

Within the CIAM context, Le Corbusier employed the term "habitat" for the first time at his introductory speech at CIAM 7 in Bergamo in 1949, claiming that it was necessary to develop a Charter of Habitat. This new architectural manifesto would have replaced or updated the previous Charter of Athens (1933), which dictated the principles of the pre-war functionalist architecture, which was based on the division of the urban structure in four main mono-functions: living, working, transport, and leisure.

The debate on HABITAT highlighted the concern about a more complex and realistic built environment, in contrast with a mere functionalist bi-dimensional zone method of planning of the city based upon function-based zones. In contrast to this sectorial division in functions of the built environment, habitat introduced a deeper interest into the complexity of the entire environment as a design topic. It propelled a shift from a universalist-sectorial approach – where the four functions where universally applicable in all conditions - to a focus on regional variations and specific local presences and identities.

However, the definition of Habitat immediately gained productive ambiguity which amplified the interpretations, the trans-national and trans-institutional flows of ideas and lastly the effects on the real built environment too. The divisions of interpretations of HABITAT also augmented the rift between young members and older ones within CIAM, even until the final breakup of the CIAM organization in 1959.

This became first clear at the CIAM Sigtuna meeting (1952), which was concerned with the "language dispute"[8] about the different meanings of 'Habitat' and 'Habiter'[9] On the one hand, the term 'habitat' for Le Corbusier constituted a substantial enrichment of the pre-war 'habiter', the pure undiluted 'dwelling' of the Athens Charter. On the other hand, the young members recognized the term including its ideological content considering that CIAM could no longer continue to regard dwelling as a separate function, but had to approach "it as an integrating part of the human settlement as a whole." Yet, Sigtuna's "wide-ranging and unfocused"[10] language dispute was destined to continue during the following CIAM meetings. In 1955, Le Corbusier tried to "suppress all misunderstanding" between "Habitat, Habiter, habitation (in French) and Habitat, living, dwelling or home (in English)," offering a final, resolute "formula" in both languages: "The Habitat represents the condition of life (the accommodation, the function) in the total environment.' L' Habitat represente les condition de vie dans le milieu total."[11] However, his attempt was not enough to patch up both the deep conceptual and generational rift within CIAM and Team 10.

INTERDISCIPLINARY LEXICON

Habitat is an interdisciplinary notion per se. The term habitat was firstly adopted in 'Systema Naturae', written by the Swedish botanist Carl von Linnés in 1735. His book was the germinating point for the modern scheme of the taxonomy of the living world, becoming a crucial topic of research for biologists, philosophers, semiologists, sociologists and for architects/urban de-

signers as well. In the post-war period, the interdisciplinary essence of Habitat, synonyms and language interpretations were highlighted by sociological, philosophical studies and theories which shared many resonances and assonances with the CIAM's debate.

For instance, in the same year as the Sigtuna meeting, 1952, the French philosopher Georges Canguilhem investigated a study about the relationship between the being and its 'Milieu'. This latter was defined by Canguilhem as "a category of contemporary thought"[12], highlighting the relevance of its discussion in the 1950s. From Newton's fluid as the intermediary between two bodies, to Lamark's "influencing circumstances" and "adaptations", Compte's "total set of external circumstances necessary for the existence of every organism", Ritter and Humboldt`s "relations between historical man and the environment", and Weiss' "environment of behaviour", Canguilhem compared several point of views, building a genealogy of the idea of milieu.

As a result, he described the environment as a "pure system of relations" at the center of required contemporary research. Indeed when faced with the dichotomy between the organic view of the world and decentered conception of the Universe, "Man is no longer in the middle (au milieu), but he is a mid-point (un milieu) (a mid-point between [milieu entre] two infinities, between nothing and everything, between two extremes."[13] Similarly, Leo Spitzer considered the term "medium" using a twofold spatial reference: "the midpoint of an object, and the intermediate point (region, substance) between two or more objects." Describing the second significance, he used the concept of "in between", resonating with Martin Buber's "Ich und Du" (1923), which became the main reference for an architectural discourse on the relationship and the in-between within CIAM and TEAM X since the 1950s.

Leo Spitzer, in 1942, also compared the different nuances of the French 'milieu', the Italian 'ambiente', the English 'environment', the German 'Umwelt', and so on. Commenting the often interchangeability of the French 'milieu' with the English 'environment', he emphasized a distinct difference which could have helped the language dispute in Sigtuna: the Austrian literary critic asserted that 'milieu' is characterized by a more subjective connotation than 'environment'. This latter is more deterministic and less personal, even though both terms indicate a certain quality: "environment is the term of a sociologist who thinks in terms of fixed factors, 'milieu' the more spontaneous expression of a human being who feels, rather than analyses.[14]

Hence, ten years before the CIAM meeting in Sigtuna, Spitzer already shed light on the different language nuances and interpretation which affected the CIAM meetings, often characterized by the slippage through different languages, meanings and interpretations.[15]

LEFEBVRE: SUBVERTING THE SIGTUNA DISPUTE

The binomial 'habitat-habiter' was embedded with the idea of everyday practice which encompasses the surroundings of the social life, sharing many resonances with the theoretical positions of the French Philosopher Henri Lefebvre.

The Sigtuna language dispute about 'habitat' and 'habiter' was also part of the discourse by Lefebvre in "L'habitat pavilionaire" (1959), where he specified that 'l'habitation' had changed with society while 'l'habiter' had been modified in relation to culture, civilization and society as a whole.

The French philosophers referred to an anthropological idea of 'habiter' which does not merely regard the single dwelling unit. On the contrary, it is a part of a whole, it is a complex practice which is related to multiple levels of social interactions. One of these levels also includes language, according to Lefebvre. Habitation is always part of a double system –"palpable and verbal, 'objectal' and semantic"[16], where the language is important but always together with and as a translation of the practical function. Lefebvre seems to escape from any semantic speculations of the term, without falling into the endless discussion of Sigtuna: "It would be too easy to arrive at the semantic system of habitation (words and connected words) by speaking of the semiological system (objects relating to habitation and their significances). None of these messages supplies the code that would enable us to decipher the other, automatically."[17] In this sense neither the pre-war functionalist 'dwelling' of Le Corbusier nor the 'poetical' dwelling depicted by Heidegger were positive, correct references, as already highlighted by Stanek.[18]

On the one hand, his critiques to pre-war CIAM were similar, coherent and coeval with the discussion which was held first within the post-war CIAM and later in TEAM X. On the other hand, Lefebvre was intrigued by the 'poetical' and phenomenological vision of dwelling, in contrast with the ravages of technology as expressed by Gaston Bachelard or by Heidegger through the words and ideas of the poet Friedrich Hölderlin.

A few years later, in 'La révolution urbaine' (1970), the French philosopher returned to the semiotic gulf between 'habiter' and 'habitat' stressing its relevance and utility: "Although the distinction between "habiting" and "habitat" is already subject to considerable controversy, I still insist that it is useful."[19]

Lefebvre continued his discourse vehemently criticizing "habitat" as a "caricatural pseudo-concept", a reductive functionalist urban thought which, at the end of the 19th Century, limited and categorized the human being in simple acts that "can't even be called animal [...]: eating, sleeping, reproducing."

"Habitat was imposed from above as the application of a homogeneous global and quantitative space, a requirement that "lived experience" allowed itself to be enclosed in boxes, cages, or "dwelling machines."

Even if 'habiter' is millenary, in the quite recent "reign of habitat", 'habiter' (habiting) was buried in the unconscious, its pivotal and original meaning of both "functional, multifunctional and transfunctional" activity all forgotten and faded into mere practice.

According to Lefebvre, 'Habiter' had to be considered "as a source of foundation" while the architect, as a "social condenser" of existing social relationships, should have the responsibility of regaining its ancient meaning.[20]

Hence, almost twenty years after the Sigtuna meeting, Lefebvre seemed to subvert and invert the critiques which characterized the language dispute between the old and young members of CIAM – represented in Sigtuna by Wogensky and Candilis- both of whom were seeking new relationships between the dwelling and its immediate environment, an epistemological shift to an anthropological understanding of 'habiter'.

If, on the one hand, the young members labelled and abhorred the use of 'habiter' as a representation of the pre-war functionalism and instead praised 'habitat' as a pivotal ecological topic, on the other, for Lefebvre only reconsidering and giving a new meaning to 'habiter' "as a source of foundation, as essential functionality and transfunctionality" could erase the erroneous predominance of the reign of 'habitat' and urbanistic rationality.

However, even if the critiques to pre-war functionalism are controversially embodied by both 'habiter' (Candilis) and 'habitat' (Lefebvre), both thinkers shared similar ideas about an ecological[21] and anthropological concept of dwelling within the collectivity, negotiating the urban conflicts raised with the hasty process of modernization. Moreover, TEAM X's DOORN manifesto for Habitat, would have praised new criteria for the planning of the everyday life, resonating many of the discourses of Lefebvre.[22]

CONCLUSION

Habitat is a complex social and spatial notion encompassing the human settlement as a whole, in all its complex material, social and spatial stratification. Habitat is a conceptual framework whose vocabulary has been analysed and reinterpreted in order to describe and design the built environment, even if with ambiguous and contradictory understandings.The discussion on Habitat represented a unique moment in which a trans-disciplinary, relational thinking about the environment became central.

Moreover, if "each language organises the urban world in a way, by hypothesis, specific,"[23] as recently defined by Topalov, the topic of language translation was inevitably also a matter of culture, of specific ways to organise and conceive the world which made the understanding of the habitat and environment even more complicated and productively ambiguous, in a dialectic synergy between architecture and other disciplines.

Finally, these interdisciplinary and parallel debates about Habitat exhibit the importance of an interdisciplinary new theoretical framework of the built environment, which encompasses different experts. The language dispute on habitat and the contradictory interpretations highlight the necessity for a deep cross-cultural interest and dynamic balance or "equipoise" between different disciplines regarding the built environment, which is often lacking nowadays. The multi-layered debate on habitat and environment shows the importance of alliances among different disciplines for the definition of an urban lexicon which could surpass conventional urban design and social sciences definitions and ways of thinking and designing our built environment.

ACKNOWLEDGEMENTS

This Research has been financed by the Provincia Autonoma di Bolzano through the program "Seal of Excellence Projects," held at unibz.

DISCLOSURE STATEMENT

No potential conflict of interest was reported by the author.

NOTES ON CONTRIBUTOR

Leonardo Zuccaro Marchi is an Italian PhD architect. He received his PhD at IUAV and TU Delft Universities, as Joint Doctorate with a research on "The Heart of the City" (published by Routledge in 2018). After completing the PhD, he developed his research in the contents of various international postdoc research projects and fellowships in collaboration with renowned academic institutions (TU Delft, KTH Stockholm, IIT-Chicago, ETH-Zurich,). He has collaborated in urban design / landscape projects and theoretical researches with international firms such as CZA-Cino Zucchi Architetti, MECANOO architecten, LAND until a senior level. He taught at PoliMi, UDEM, TU Delft. He is co-Founder of {Co-P-E} - Collective of Project in Equipoise (https://co-p-e.com/) - which won Europan 14 in 2017. He is currently postdoc at unibz and guest researcher at ETH university.

ENDNOTE

1. Henri Lefebvre, The Urban Revolution, translated by Robert Bononno (Minneapolis, MN: University of Minnesota Press, 2003). Originally published in Henri Lefebvre, La révolution urbaine (Paris: Gallimard, 1970).
2. See Neil Brenner, Critique of Urbanization: Selected Essays (Basel: Bauwelt Fundamente Series, Birkhäuser Verlag, 2016). Neil Brenner, Christian Schmid, "Planetary urbanization," in Matthew Gandy ed., Urban Constellations (Berlin: Jovis, 2012), 10-13.
3. Bruno Latour, Facing Gaia. Eight Lectures on the New Climatic Regime (Cambridge: Polity Press, 2017), 9.
4. Fritjof Capra. *The Web of Life* (New York: Anchor, 1996), 11. See Fritjof Capra. *The Systems View of Life* (Cambridge: Cambridge Univ. Press, 2016).
5. See Dirk Van den Heuvel ed. *Habitat: Ecology Thinking in Architecture.* (Rotterdam: Nai010publishers, 2020).
6. Hadas A. Steiner, "After Habitat, Environment." *New Geographies* 06. Grounding Metabolism. (2014): 89.
7. Alison and Peter Smithsons, "Habitat, 1956" in CIAM, Dubrovnik Scroll, Collection Het Nieuwe Instituut.
8. "On m'a reproché , même Giedion qui aurait du être le premier d'accord , d'avoir fait à Sigtuna une querelle linguistique à propos du mot Habitat." Wogensky, Letter to Sert, Paris, April 9, 1953, Het Nieuwe Instituut, Rotterdam, BAKE0153, Bakema Archive, g21
9. Leonardo Zuccaro Marchi, *The Heart of the City. Legacy and Complexity of a Modern Design Idea.* (London: Routledge, 2018) : 30.
10. Eric Mumford, *The CIAM Discourse on Urbanism, 1928-1960*. (Cambridge: MIT Press, 2000), 221.
11. Le Corbusier, 9 May 1955, in Alison Smithson. THE EMERGENCE OF TEAM 10 OUT OF CIAM (London: AAGS Theory and History Papers 1.82, Architectural Association, 1982), 47.
12. Canguilhem, Georges. "The Living Being and Its Environment (milieu)," *Grey Room*, No. 3 (Spring 2001): 8. Originally in French: Canguilhem, Georges. "Le vivant et son milieu," in *La connaissance de la vie.* Paris: Hachette, 1952.
13. Ibid.
14. Spitzer, Leo, "Milieu and Ambience: An Essay in Historical Semantics.", in: *Philosophy and Phenomenological Research*, Vol. 3, N. 2, (Dec. 1942): 205-206
15. See Leonardo Zuccaro Marchi , *The Heart of the City. Legacy and Complexity of a Modern Design Idea.* (London: Routledge, 2018) : 30. Moreover, it is interesting to highlight that Spitzer started his meticulous disquisition about 'milieu' and 'ambience' directly from the Swedish language and culture, like Linneus' Habitat. In opposition to dictionary definitions which present this topic as mere "petrified sediment," the author reflected upon the Swedish word "stämning" (Eng. atmosphere) as analyzed by the Swedish linguist, *Karl Michaëlsson in* 'Studia neophilologica' XII (Uppsala 1939-40) and later reconsidered in Bellessort's work, 'La Suede' (1910). "Stämning" suggests "the idea of an inexpressible harmony between men, things, and situations" and comparing with it the French neologism

'ambiance' (more intellectual, and, unlike Stämning, inapplicable to the 'état d'âme' of a human being), he found in both these terms an expression of that modern and anti-Cartesian desire to penetrate "les sombres tunnels de l'inexprimable." (The dark tunnels of the inexpressible).

16. Lefebvre, Henri. "Preface to the Study of the Habitat of the Pavillon," in *Henri Lefebvre: Key Writings, ed. Stuart Elden*, Elizabeth Lebas, Elenore Kofman, (New York: Continuum, 2003), 126 . Originally published in French: Henri Lefebvre, "Preface," in *L'Habitat pavillonnaire*, ed. Henri Raymond et al. Paris: CRU, 1966, 3-23.

17. Ibid.

18. Łukasz *Stanek*. *Henri Lefebvre on Space. Architecture, Urban Research, and the Production of Theory*. (Minneapolis: University of Minnesota Press, 2011), 88.

19. Lefebvre, Henri. *The Urban Revolution*. Minneapolis, (London: University of Minnesota Press, 2003), 81. Originally published in French: Lefebvre, Henri. *La revolution urbaine*. Paris: Gallimard ed., 1970.

20. Indeed, as recently stressed by Paquot, the French term 'Habiter' has a range of meanings and it is a very ancient term in comparison with 'habitat' which stemmed from botanical and zoological vocabulary only at the beginning of the 19th century. 'Habiter' derives from the Latin 'habitare', "to have often", from which " d'habitude" is derived, which gives the French term 'habitude' - "get used to" but also "remain". Only since 1050 has the verb 'habiter' meant remaining somewhere, occupying a residence. Thierry Paquot. "Habitat, habitation, habiter. Ce que parler veut dire... Caisse nationale d'allocations familiales (CNAF)", *Informations sociales*, (2005/3): 48- 54

21. As far as the biological reference is concerned, even in the 1930s, László Moholy-Nagy was interested in the intermingled experience of architecture and biology, in 'nature as a constructional model.' Bauhaus designers and ecologists agreed upon the idea of seeking a transfiguration of the natural household into the human one. Both Walter Gropius and László Moholy-Nagy were influenced by the work of evolutionary biologist Julian Huxley and enjoyed an exchange of ideas with him. Huxley considered habitat as the result of variations of thresholds or borders of ecological scales. Also Giedion relied on the biological studies of the biologist von Uexküll. This latter described the relations between the organism and its environment as "mutual belonging", highlighting their ethical dependence as well. Uexküll's theory of the Umwelt analyzes how organisms behave and relate to things through their subjective experiences in their respective environments. Umwelt is an intersubjective model, formed by a perceptual world [Merkwelt] and active world [Wirkwelt] which turns each animal into both a perceiving and an acting subject instead of a mere object. Giedion reconsidered the corporation and equilibrium of Uexküll`s Merkwelt and Wirkwelt, affirming that "the Human organism requires equipoise between its organic environment and its artificial surroundings"(Giedion, 1948). A few years later, the same equipoise will be later described by Giedion between the individual and the collective sphere, for the definition of an "Architecture of You and Me" (Giedion, 1958) and the "Heart of City" (CIAM 8, 1951).

22. See Stanek L., Henri Lefebvre on Space. Architecture. Urban Research and the production of Theory. University of Minnesota Press. Minneapolis, London, 2011, p. 84

23. Originally in French: "chaque langue organise le monde urbain d'une façon , par hypothèse , spécifique." Christian Topalov, Laurent Coudroy De Lille, Jean-Charles Depaule, Brigitte Marin, ed., *L'aventure des mots de la ville à travers le temps , les langues , les sociétés* (Paris: Robert Laffont, 2010), XVIII.

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Fall and revival of the Colegio das Artes
The long transformation of the ancient college into a modern university hospital

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Abstract

During the nineteenth century, all over Europe cities were modernized to fulfil the new needs of comfort and to locate the new modern facilities as public markets, schools, courts, hospitals and administrative offices. But also, to introduce the new public networks and services, like public transports, gas, water, and sewage. On the other it was in this period that most of the cities demolished its walls and expand its urban tissues. Portugal, a peripheral country faced in the beginning of the nineteenth century a great political and economic instability, firstly the French Invasions and the consequent relocation of the Portuguese capital to Brazil, after the liberal revolution (1820) followed by the civil war opposing liberals and supporters of the ancient regime. This postponed and delayed the industrialization and modernization process but like all over Europe, Portuguese Cities were widely transformed. This paper intends to analyse how the former Colégio das Artes, responsible for the preparatory studies for university, was transformed in the University´s Hospital one of the main utilities of Coimbra in the begging of the twenty century. This key facility in the organization of the new liberal city required enormous adaptations to fulfil the new sanitary demands and the evolution of medicine. The plan drawn up by António Augusto Costa Simões included not only the old Colégio das Artes but also more two ancient religious colleges, the S. Jerónimo College and the military college and their fences. However, the financial restrictions made impossible the construction of this ambitious plan. Despite Costa, Simões did not give up his dream to create a modern hospital following the international technological trends and with a very pragmatic thought carried out a set of reforms adapting the old religious colleges to the new University Hospital and continued studying and visiting the most modern European Hospital. At the turn of the century, evoking the need for more space and a new typology of single blocks, Costa Simões draw up a new project creating some new hospital facilities, in Penedo da Saudade. Once again this project was abandoned though was responsible for the creation of the Penedo da Saudade neighbourhood, planned by the municipal administration. Moreover, the construction of the new hospital was responsible for the introduction of some of the main hygienic principles in the City. In fact, Costa Simões was the prime mover of the introduction

of a distribution water network to Coimbra as well as of the construction of a modern sewer network. In spite of the failure of his plan for the hospital, it is without dough an innovative solution. Over the twentieth century, the building survived the mass demolition of the ancient uptown to give place to the new University City and today returned to the teaching function, the old hospital now houses the department of architecture of the University of Coimbra. This paper aims to stress the process of transformation of the old College from school into Coimbra´s main attraction as hospital and nowadays the transformation into school once more.

Keywords

adaptation, ancient college, new facilities, modern hospital

How to cite

Calmeiro, Margarida, "Fall and revival of the Colegio das Artes. The long transformation of the ancient college into a modern university hospital". In Carola Hein (ed.), *International Planning History Society Proceedings*, 19th IPHS Conference, City-Space-Transformation, TU Delft, 5 - 6 July, 2022, TU Delft Open, 2022.

6 JULY: SESSION 2.2

SOCIAL HOUSING AND URBAN PLANNING/ SPAIN.

Chair: María A. Castrillo Romón

Francoism and the triumph of home ownership, 1939-1975

The case of Nou Barris

Manel Guardia Bassols, José Luis Oyón Bañales, Maribel Rosselló Nicolau, David Hernández Falagán
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The various responses to the economic situation and the excruciating issue of housing during the long, unstable period of Franco's regime, during which there was high immigration and steep growth in large cities, led to the consolidation of high percentages of homeownership. Homeownership was particularly notable in the working-class suburbs of urban agglomerations. This was a real cultural mutation that, due to its divergence from European housing policies, is a good focus of analysis to explore some specific characteristics of the housing problem during the Franco regime. Through a literature review and the use of primary sources (building permits, building and housing censuses and population registers), the ongoing research on Barcelona questions whether the divergence from other European countries is mainly a Falangist cultural legacy, as suggested recently, or more closely related to the process of economic liberalisation. As greater access to homeownership coincided with a revolution in ways of living and new relations with the neighbourhood, it should also be questioned whether it influenced the high number of neighbourhood movements during the decline of Franco's regime.

Keywords

Housing, homeownership, working-class suburbs, neighbourhood movements, Francoism, Falangism commonhold

How to cite

Guardia Bassols, Manel; Oyón Bañales, José Luis; Rosselló Nicolau, Maribel; Hernández Falagán, David; "Francoism and the triumph of home ownership, 1939-1975: The case of Nou Barris". In Carola Hein (ed.), *International Planning History Society Proceedings*, 19th IPHS Conference, City-Space-Transformation, TU Delft, 5 - 6 July, 2022, TU Delft Open, 2022.

DOI: 10.7480/iphs.2022.1.6475

ON THE TRACK OF HOMEOWNERSHIP CULTURE: THE STAGES OF THE SPANISH HOUSING CHALLENGE

It is common and useful to distinguish between two contrasting stages during the long period of the Franco regime. If we consider this period from the perspective of production, the turning point occurred in the mid-1950s. In the first stage, the context was one of an autarchic economic policy of brutal contraction in comparison to the previous decades. The second stage was one of great expansion between 1954 and 1974, with a real revolution in the production process and commercialisation.

However, if we consider the period from the perspective of consumption, that is, its impact on the majority of residents of the large cities, the main turning point occurred in 1960. Despite the increase in production, between 1954 and 1959 economic difficulties and strong migratory movements prevented a reduction in the deficits inherited from the previous stage. This is illustrated in the graph comparing authorised dwellings in Barcelona with the increase in number of inhabitants, which reveals a serious worsening of the situation during the final years of the 1950s (Fig. 1). A clear inflection in terms of demand can only be seen from 1960, due to slower population growth and the robust, sustained expansion in construction of new dwellings, with increasing involvement of private initiative. This is when the "developmentalism" stage began. Between 1960 and 1974, a real revolution occurred in the urban working class's ways of living and consuming. This stage marks the start of a complete transformation in their living culture that had long-term consequences. Housing conditions and the parameters of habitability changed radically.

In the process, high percentages of homeownership became consolidated and have characterised Spanish cities ever since. In an interesting recent book, José Candela Ochotorena discussed this issue and provided new perspectives. According to his calculations, in Spain in 1950 around 20% of urban housing was owned, while in 1960 this percentage had risen to 43% and in 1970 it stood at 70%[1]. In Barcelona, the change followed a similar pattern although at a later date. The percentage of homeownership in 1965 was 21.2% and in 1970 it was 31%. These percentages are particularly significant if they are compared with housing policy at this time in European countries, where a large amount of social housing for rent was built.

The central thesis of Candela's book is summed up in the subtitle: "la herencia cultural falangista de la vivienda en propiedad, 1939–1959" (The Falangist cultural legacy of homeownership, 1939–1959)[2]. Indeed, the two first decades of the Falange's system of ideological hegemony seem to have had a clear influence. The Protected Housing Act of 1939 clearly shows a desire to promote homeownership as a formula for social pacification and framing, as it is associated with the conservative, stable nature of the traditional home. Significantly, protected housing could not be transferred without the authorisation of the National Housing Institute (INV)[3]. The period clearly culminated with the creation of the new Ministry of Housing whose head from 1957 to 1960, the Falangist ideologist José Luis Arrese, created the slogan: "We want a country of proprietors, not proletarians".

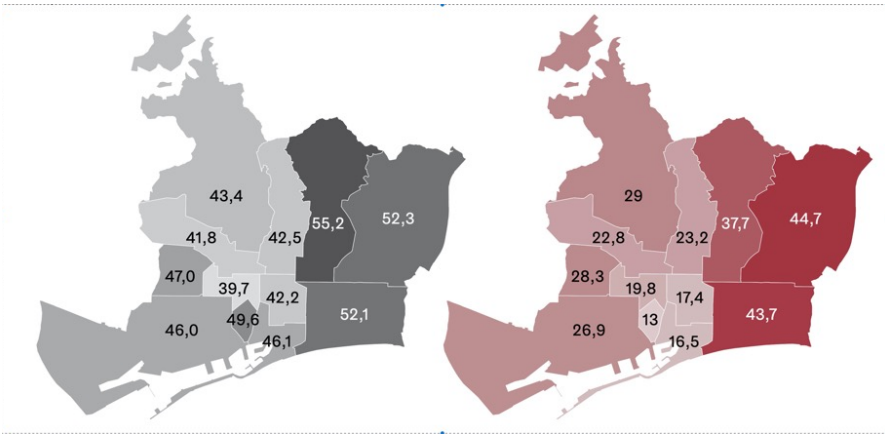

Fig. 1. Left: Rates of workers in industry, services, communication and transport, 1970.
Fig. 2. Right: Rates of property paid or with outstanding installments, 1970

However, we should question to what extent the divergence in housing policy from other European countries was essentially the result of the Falangist culture expounded in public speeches and political actions. Alternatively, it could have been the result of a set of circumstances and conflicting decisions associated with internal commitments and balances of families during the Franco regime, in which determining factors where the constant inflationist process and the rent freeze due to the Urban Rent Act of 1946. It does not seem coincidental that the Commonhold Property Act was approved in 1960. More than Falangist-inspired legislation, this act could be associated with the new programme of economic liberalisation. Consequently, the issue is a good focus of analysis to explore some complexities of the long path and the regime's limitations before the stubborn problem of housing.

THE COLLAPSE IN HOUSING CONDITIONS AND DEMAND FOR HOMEOWNERSHIP, 1939–1959

Despite the triumphal speeches of Falangist leaders, in the large Spanish metropolises, the first decades of the post-war period were marked by hunger, poverty and a brutal drop in the overall housing conditions. The construction sector suffered years of paralysis and standstill. Housing policy depended on the Ministry of Labour, which used all its scarce resources to activate the economy and mitigate the severe situation of unemployment. The first Spanish National Housing Plan of 1944–1954 was supported by the Unemployment Act in a strongly inflationary context with a lack of materials, costs that were difficult to anticipate and severe financing problems. Accommodation for the working class did not appear to be a priority. The lack of dwellings for the middle class seemed more pressing, "as the comfort required in modern times and the anomalous market situation made con-

struction more expensive so that it was only accessible to those with considerable capital."[4] In fact, state resources and aid were concentrated through housing legislation for the middle classes[5]. The most significant laws were that of 1944, "against unemployment and on housing rebates" for rent and the decree of 1948 against unemployment that prioritised ownership for amortisation. This housing policy, which overlooked the "productive class", and a failed economic policy led to an extremely critical situation for the weakest in society, which was considerably more serious than in the 1920s.

In response to price increases and the increasing gap between salaries and the cost of accommodation, the approval of the Urban Rent Act in 1946 led to a rent freeze. This reactive, circumstantial measure pushed up the price of new rents, penalised owners and discouraged new investment in the sector. The rent block and the inflation rates clearly aggravated the housing problem in the long term, as they undermined the rental option. The effect of this was to promote what is known as commonhold, which was already advancing in Zaragoza and Valencia and beginning to be introduced in Madrid. By 1945, an article proposed commonhold as a long-term alternative to mobilise private savings[6].

The initiatives promoted by the Obra Sindical del Hogar (Syndical Housing Authority, OSH) or the Municipal Boards had almost no impact on alleviating the serious lack of affordable rental housing. Between 1942 and 1953, the OSH handed over 21,737 dwellings, but the 1952 Congress of Architects estimated optimistically that the shortfall was 800,000 dwellings.[7] During these years, the housing problem in the big cities was rapidly worsening. Migrations to urban centres had resumed as people fled conditions of poverty, repression, and lack of prospects in many rural areas. The bottleneck in supply gave rise to a new explosion in slum dwellings and cohabitation in particular. In addition, it fuelled a strong submarket of informal dwellings, in neighbourhoods where people bought very small plots of land and built on them illegally.

The constant deterioration in living conditions in a context of ineffectiveness, rationing and illegal trade triggered the greatest explosion in social unrest in the early phase of Franco's dictatorship. The inappropriately named tram strike of 1951 in Barcelona, which was really a boycott by users that became a full general strike despite the harsh repression, was a wake-up call for the regime. In the remodelling of the government in 1951, some new ministers were more inclined towards a degree of economic liberalisation, and in May 1952 rationing disappeared officially. In some way, this action recognised the failure of the autarchy. Studies on the housing problem in Spain pushed this issue into the foreground as the 'main national problem'.[8]

In this context, the 1953 Urban Plan for Barcelona and its area of influence -known as *Pla Comarcal* (Barcelona County Plan)- was approved with the aim of intensifying urban activity and providing land to display new housing policies. This plan would allow the detailed development of partial masterplans, facilitating ordinances for the densification processes (mainly for the pre-consolidated urban fabric of the peripheral neighbourhoods of the city), and ordering areas for new residential estates. In the case of densification, the importance of planning was paramount, not only due to the modification of building ordinances, but also for the regulation of the mandatory nature of certain infrastructures and services, such as the water supply or the sewage network.

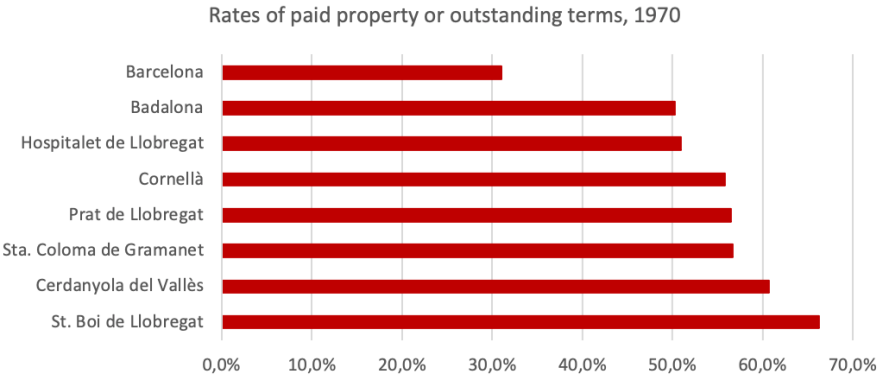

Fig. 3. Rates of paid property in working class townships in the metropolitan area of Barcelona, 1970

In 1954, within the framework of the Second Housing Plan, the new law on "limited rent" housing of 1954 offered tax credits and exemptions, priority supply of materials, subsidies and loans. The law completely redefined the official protection system, which shifted to private property development. Other liberalisation measures included the approval of the Land Act of 1956 that was designed to expand the offering of buildable land and the new Urban Rent Act of 1956 that partially unblocked rent prices. However, these measures were less effective.

And, finally, the remodelling of the Government of 1957 was crucial. Not only meant a decisive step for economic liberalization, but also meant the creation of the Ministry of Housing, promoter of large operations of massive housing through Emergency Plans. This ministry was led by José Luis Arrese, a Falangist who was absolutely loyal to Franco as a minister. His popular slogan "We want a country of proprietors, not proletarians" and the approval in 1960 of the Commonhold Property Act appear to be the culmination of the Falangist influence on housing policy, as stated by J. Candela. However, the twenty previous years of Falangist interventionist policy contradict this interpretation. All demands for commonhold planning, transmitted from at least 1945 through the press and through Chambers of Urban Property, were ignored. The inaction is surprising if we consider the official intention of mobilising middle-class savings to activate the economy and alleviate unemployment. It is also surprising if we consider the experience in Peron's regime, which was so similar to the early phase of Franco's dictatorship. In Argentina, the inflationary process also led to a rent freeze in 1943. In the response of Peron's regime to the severe housing problem, which included social housing plans and mortgage loans, the approval of the Commonhold Property Act of 1948 was of vital importance. This experience was reflected in the Spanish press but there is no record of its impact in official spheres.

Commonhold planning did not reflect a commitment to an ideal property that would guarantee the moral order of the home, as promoted in Falangist and National-Catholic discourse. Instead, it was more of an instrument to facilitate property transfer and stimulate the private property market. This possibility was not highly valued by Falangism. In this context, Arrese's

actions as the new Minister of Housing, after he had been ousted from his position as General Secretary of the Movement, could illustrate his speaking and propaganda skills to support the new economic liberalisation that was being imposed by Opus Dei technocrats, rather than a genuinely Falangist expression.

At the end of Franco's regime, the high rates of homeownership in the working-class suburbs seem to confirm the success of José Luis Arrese's slogan. However, high homeownership did not appear to be the result of Falangist ideology or an expression of social justice, and it did not have the expected effect of social pacification.

PROLETARIAN SUBURBS, PROPRIETARY SUBURBS: THE REVOLUTION IN EVERYDAY LIFE, 1960–1975

Barcelona maintained higher percentages of rental housing than in Madrid and other large cities. However, an analysis of Spanish National Statistics Institute (INE) housing censuses from the end of the Franco regime and the early years of democracy provides firm evidence of a dramatic shift from renting to homeownership, as well as the pioneering role of the working-class suburbs. In 1950, only 5.2% of dwellings in Barcelona were owned by heads of households, a situation that was similar to the 6.7% of 1930.[9] In 1960, when cohabitation, overcrowding and self-build were at the highest levels of the century in Barcelona, owned homes only represented 11.2% of the total, compared to an overwhelming 84.4% of rental homes.[10] However, the percentage of homeownership tripled in the decade of 1960–1970 to reach a significant 34.2% (of which 18.5% were still paying for the property and 15.7% had already paid for it)[11].

The housing census of 1981 clearly confirmed the major shift in the city of Barcelona: 52% of homes in the city were owned compared to 46% that were rented[12].

This increase in homeownership has a paradoxical social bias. In 1970, the large districts 9 and 10, which were of a more working-class nature and experienced the greatest urban growth in this period, had percentages of homeownership of around 44%. In contrast, districts 3 and 11, which had only just begun to grow, were of higher status and therefore had much lower homeownership percentages of under 30% in all cases (29% and 22%). In these neighbourhoods, many of the dwellings that were constructed were rental properties and benefitted from some form of protection. This was much more difficult, and consequently less common, in the districts that were weaker economically (Fig. 2).

In some suburban working-class districts, the high rates of homeownership in 1970 were mainly associated with new properties. In these districts, the number of dwellings (and inhabitants) easily tripled between 1950 and 1970, while it only increased by 70% in the city. The new estates, and the old low houses that were replaced on a large scale by four or five storey buildings in the 1960s and 1970s in particular, housed families that had moved for the

first time to these areas. Data on municipalities in the metropolitan working-class belt further strengthen this idea and should be interpreted in terms of the total continuity of the situation in the two large working-class districts of Barcelona. In 1960, the proportion of working population in these districts clearly exceeded that of Barcelona. Around 60% of the city's population was actively working, while the percentage of working population in the closest municipalities to Barcelona, including Hospitalet, Cornellà, Badalona, Santa Coloma and Sant Adrià del Besós, far exceeded 80%[13]. With much more modest housing stock and more serious conditions of overcrowding than Barcelona, as well as rates of homeownership that were already high in 1950, in the decade of the 1960s the percentage of owned flats reached between 57% and 65% (Fig. 3).

It was precisely in this decade when overcrowding in working class dwellings began to fall dramatically. Prior to this, overcrowding had risen steadily since the interwar years, particularly during the harsh decades of the 1940s and 1950s. By 1960, the alarming figure of close of six people in each main dwelling had been reached. Ten years later, the figure had dropped to under four, which was the sharpest inflection of the curve in the entire century. Working-class housing conditions in the neighbourhood of Nou Barris in Barcelona in the 1970s show the clear consolidation of a situation that was not prosperous in relative terms but was definitely far from the precariousness of the early years of the Franco regime[14]. The proportion of small dwellings was still extremely high. Homes in this neighbourhood were smaller than the average for the city and for the metropolitan area: 60% were under 70 m2 and 28% were between 70 and 100 m2. Hardly any dwellings had more than one shower or bathroom. However, at the end of the 1960s and early years of the 1970s, it seemed that the precariousness of the early years of the Franco regime was over in these suburban neighbourhoods. During this period, there was also a revolution in the equipment inside houses. Possession of a radio or telephone had been a rarity among the working class of Barcelona in 1950 but became a mass phenomenon. In 1968, between 54% and 67% of these homes had a television, while seven years later all skilled workers had one, as well as the majority of non-skilled workers.

The changes in the parameters of habitability and in consumption habits were not the result of the Falange's paternalistic ideas or its political action. Within a tax system that was clearly regressive, the housing policy meant that the weaker social sectors subsidised families with higher incomes. The support provided by official protection covered the construction of high-class rental homes, while many of the more economically disadvantaged consumers had to purchase homes on the housing market, with the added effort that this represented[15].

The new context contributed strongly to tying individuals to the home and to the progressive decline in neighbourhood sociability. However, in contrast to the expectations of Arrese, who saw in homeownership an instrument to domesticate the working classes, the final years of the Franco regime was the period with the most neighbourhood movements in the working-class suburbs.

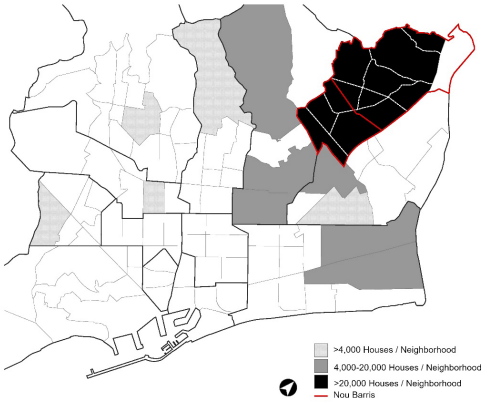

Fig. 4. Increase in dwellings by administrative neighborhoods in absolute figures, 1947-1970.

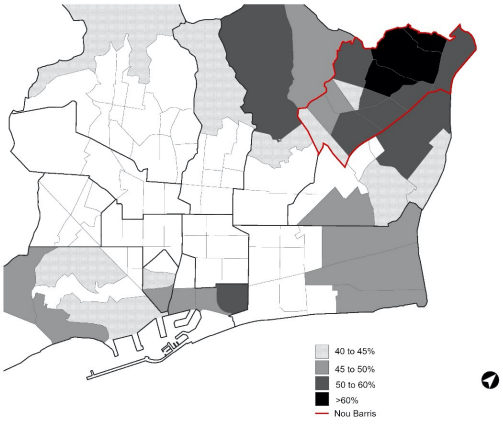

Fig. 5. Rates of immigration -Spaniards born outside Catalonia-, 1970

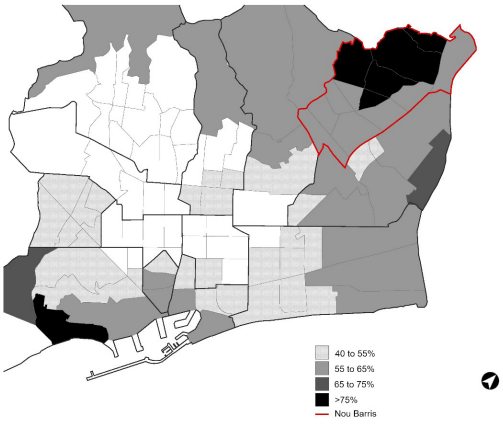

Fig. 6. Rates of workers in industry, services, communication and transportation, 1970.

HOUSING, PROPERTY, AND NEIGHBOURHOOD MOVEMENTS: THE CASE OF NOU BARRIS IN BARCELONA

Although generally overlooked by the historiography of urban movements and in contrast to the tradition of rent strikes, property (often precarious or imperfect) is a relevant variable in various phases and types of neighbourhood actions[16]. This is especially relevant in the district of Nou Barris, the area at the outskirts of the city with the highest growth in the municipality of Barcelona between 1947 and 1970, the most working-class and with more immigration (Figs. 4, 5, 6). Furthermore, the first to organise themselves were self-built neighbourhoods constructed in the two decades after the war[17]. The transformation of the district is also related to the implementation of the Barcelona Social Emergency Plan of 1958. This planning gave rise to some of the most characteristic residential estates in the area, such as Guineueta and Porta. But it also allowed for less visible investments, such as the construction of collectors, essential in the northern part of the district, which practically lacks sewerage. Residents of these areas, united by the fact that their properties were still precarious from a legal perspective and had incomplete domestic facilities, came together to construct shared basic infrastructure such as a sewer. This was the case of residents in the self-built area of Roquetas Altas (Nou Barris), who took advantage of holidays in the summer of 1964, or the neighbourhood association created around this time in the self-built neighbourhood of Ca n´Oriach (Sabadell)[18].

These actively organised neighbourhoods moved from the welfare assistance provided by parish and social centres to the strengthening of independent neighbourhood structures, and finally to involvement in conflicts and collective actions that went beyond the narrow legality of the Franco regime[19]. Examples of this situation could be the protests about the lack of road safety and traffic lights in Trinitat (in 1964), or the occupation of the Barcelona-Granollers motorway at the end of 1969 and in 1971, by residents of Torre Baró and Vallbona protesting the lack of connection between these two neighbourhoods that had been historically linked[20]. This type of collective action culminated in many suburban neighbourhoods in the formation of increasingly powerful, decisive neighbourhood associations. Such associations rose up radically against the municipality of Barcelona when, between 1969 and 1973, new partial masterplans for reforming large roads such as the Meridiana or the Ronda ring road were announced that implied the potential destruction of over 4,000 dwellings in Nou Barris, thus threatening the insecure ownership of the homes. In the resulting protest, the Meridiana road was cut, and a plenary municipal meeting was stormed, causing the subsequent fall of various mayors.

In the metropolitan estates of the Syndical Housing Authority (OSH), constructed in the 1950s, the legal insecurity of the confusing system of deferred homeownership was the determining factor behind the movements between 1969 and 1973. The strikes in payment of the instalments for purchasing the dwellings are the best example of this type of collective action, which was initially isolated, but subsequently coordinated with other estates in the metropolitan area and Barcelona itself, such as Trinitat Nova and Verdum in Nou Barris[21].

When the issue of basic, permanent shelter with water and electricity supplies and legal security had been resolved, demands focused on shortfalls in the area outside the home. Com-

plaints about the serious lack of school places, nurseries, public services and green spaces also spread to the large estates of privately constructed dwellings. The development companies' offices were often in the same neighbourhood. Examples are the Ciudad Satélite in Cornellà from 1969, or the Ciudad Meridiana in 1973. Finally, the reform of the Regional Plan between 1974 and 1976 provided an opportunity to bring together many of these demands[22].

It can be concluded that the imperfect ownership of dwellings, as a result of self-build or the Syndical Housing Authority's property developments, was one of the reasons for the start and radical nature of many of the neighbourhood movements during the second stage of Franco's dictatorship. In the Nou Barris district, this radicalism moved from "north to south": from the more working-class areas with the most imperfect homeownership to areas with a higher economic level and more orthodox homeownership.

At a time of economic crisis and unemployment, access to home ownership was a entrenched factor, while neighborhood struggles, although radical, joined the anti-Franco forces and become a mechanism for public awareness. New democracy and new municipal policies consolidated the process of inclusion. A dynamic that contrasts with the eruption, around 1980 in many European cities, of new urban violence motivated by ethnic segregation, the mechanisms of social exclusion and the lack of prospects of a disappointed young citizenry.

CONCLUSION

If we define homeownership in current terms, we cannot consider it to be a cultural legacy of the Falange. The notion of ownership in speeches and in the social housing policy inspired by the Falange had an eminently moral tone and was associated with submission to the established order. It resulted in an imperfect form of ownership that made transfer of properties and the definitive empowerment of the user difficult. Significantly, allocation criteria not only privileged war veterans, syndicate officials and large families, but also required syndicate membership and in general guarantees of ideological and moral order. The change occurred with the approval of the Commonhold Act of 1960, which was key to the effective spread of commonholds. It made the transfer of properties and their entry into the market easier. In addition, it was a closer reflection of Opus Dei technocrats' programme of economic liberalisation, rather than Falangist interventionism.

It was this new legal framework in the context of the new liberalised economic dynamics that decisively accelerated access to homeownership from 1960. This process was visible in Barcelona and contributed, although gradually, to overcoming the terrible working-class housing conditions. It coincided with an increase in consumption and better facilities in homes, and with the development of planning figures such as the *Pla Comarcal*, the partial masterplans, or the Social Emergency Plan, which consolidated ordinances and minimum infrastructure requirements for the home. The high rates of property ownership in the working-class suburbs of the city and the metropolitan area may be surprising. In new, higher-status neighbour-

hoods the rates of homeownership were much lower. Most dwellings for the middle and upper classes were constructed with the support of official protection and were rental properties. In contrast, as there was no offering of affordable rental housing for working-class families, they were forced to make an additional effort to purchase homes. This paradox arose from a series of contradictory decisions and was inherent in the regressive tax system of the Franco regime, which often subsidised families that had higher incomes but did not cover weaker social sectors to the same extent.

Clearly, ownership tied people to their homes and, in a different way, to the neighbourhood. However, the expectations of the leading housing minister, Arrese, were not met. He considered homeownership a tool for the domestication of the working classes. It is easy to see the extent to which the large neighbourhood movements in these working-class suburbs, which were highly politicised in the final years of the Franco regime, were largely due to the imperfect homeownership that was a legacy of the decades of Falangist power. In these suburbs, the radicalism of the neighborhood movements contributed decisively to the construction of a shared citizenship. In contrast to what was happening in some European cities, where the first urban violence born of ethnic exclusion and the lack of prospects for the future began to manifest itself.

DISCLOSURE STATEMENT

No potential conflict of interest was reported by the authors.

NOTES ON CONTRIBUTORS

The authors are members of the BARRIO research group at the Universitat Politècnica de Catalunya. Their research has been published in the book *La revolució de l'habitatge a les perifèries obreres i populars: Nou Barris 1939-1980*. Barcelona: MUHBA Documents, 2021. This work was supported by the Ministry of Science and Innovation of the Spanish Government under Grant HAR2017-82965R.

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Housing and Urbanism in Spain in Francoist period

Public policies and propaganda around the Obra Sindical del Hogar (1939-1977)

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Abstract

The *Obra Sindical del Hogar* —OSH, Housing Trade Union Welfare— was a Spanish social housing building entity during the Francoist dictatorship. Although it served the *Instituto Nacional de la Vivienda*—INV, National Housing Institute—, which was the autonomous state agency for housing policy, OSH was under the control of *FET y de las JONS,* which was the only party of Franco's regime. This paper aims to compare real performance of OSH with its own propaganda throughout the dictatorship. Our methodology has included analysing housing production data at the national level in this period, particularly social housing, and studying three significant and complementary projects carried out in three locations in the region of Castilla y León in three different decades —Burgos in the forties, Covaleda (Soria) in the fifties and Valladolid in the sixties—. It can be concluded that the OSH performed a huge propaganda work that made its production seem much larger than it really was.

Keywords

social housing, propaganda, Spain, Francoism, *Obra Sindical del Hogar*.

How to cite

Fernández-Maroto, Miguel; Pérez-Eguíluz, Víctor; Jiménez Jiménez, Marina; de las Rivas Sanz, Juan Luis; "Housing and Urbanism in Spain in Francoist period: Public policies and propaganda around the Obra Sindical del Hogar (1939-1977)". In Carola Hein (ed.), *International Planning History Society Proceedings*, 19th IPHS Conference, City-Space-Transformation, TU Delft, 5 - 6 July, 2022, TU Delft Open, 2022.

DOI: 10.7480/iphs.2022.1.6477

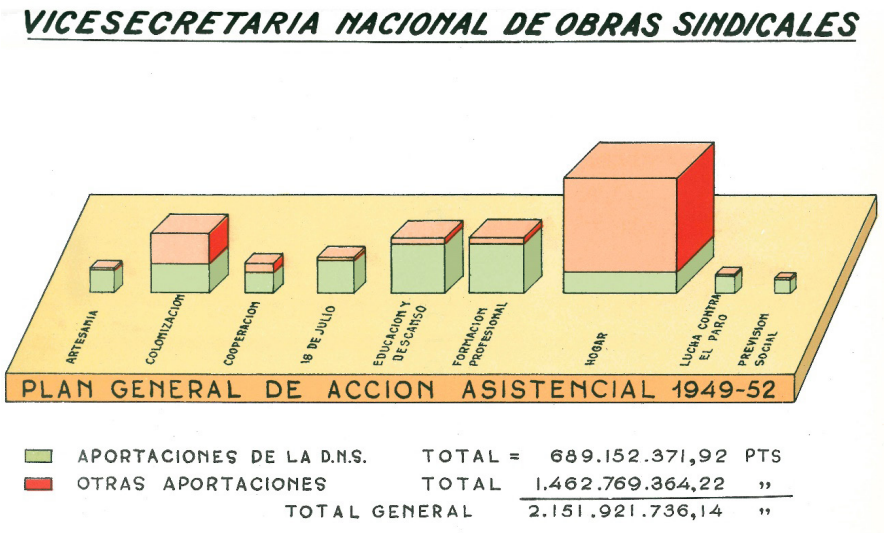

Fig. 1. Contributions to the General Plan of Assistance Action of the DNS for the period 1949-1952. Direct contributions of the DNS to the OSH accounted for 23.6% of the total contribution to the nine welfares but taking into account the "other expected contributions", it reached 68.5%.

INTRODUCTION

Falange Española Tradicionalista y de las Juntas de Ofensiva Nacional Sindicalista —FET y de las JONS— was established during the Spanish Civil War (1936-39) as a "political entity national in nature" mediating between society and the State.[1] The statutes of the new party defined it as "inspiring Militant Movement and base of the Spanish State", hence the use of the term "Movement" as a synonym for this new legal entity. As a single party, *FET y de las JONS* was clearly a fundamental guarantor of the energetic and continued repression of the new "National State" that emerged after the Civil War, led by the dictator Francisco Franco until his death in 1975. However, it was also an entity for providing its "social policy" and a sustained propaganda agency, both of them made to obtain consent.[2] The "Movement" combined coercion and social persuasion, becoming the most obvious representation of the Francoist myth of claiming social justice.[3] Apart from disciplining the people, rather than influencing their opinion, the propaganda of the "Movement" aimed to awaken a mythical belief —Franco as a leader, the so-called *Caudillo*— and to spread ideas with emotional claims to get the population involved —*FET y de las JONS* as the only social agent—.[4]

During the Francoist dictatorship, state housing policy, built or promoted, was clear but also very insufficient and iniquitous. Nevertheless, the propaganda was responsible for pretending the existence of a social concern in the regime, materialized despite the difficulties. The state agency in charge of promoting social housing was the *Instituto Nacional de la Vivienda* —hereinafter INV, National Housing Institute— created by the Law of April 19th, 1939 to

implement the new regime of protection for low-income housing. The INV was therefore a state organization, but it also needed to use the "Movement" organizations to succeed in its mission, fundamentally the *Obra Sindical del Hogar* —hereinafter OSH, Housing Trade Union Welfare—.[5] The OSH was an important social service of the "Movement" dedicated to advising, building and managing residential groups for the "humble classes". As a building entity, the OSH could not act without executive political intervention, technical control or the essential funding provided by the INV, but it was systematically shown, through propaganda, like the main entity acting in favour of workers. Understanding the impact of social housing policy and the role of the OSH regarding public opinion's control are the objectives of this paper.

THE OSH AND SOCIAL HOUSING CONSTRUCTION AS THE GREAT SOCIAL WORK AND PROPAGANDA OF THE "MOVEMENT"

In 1937, *FET y de las JONS* statutes established an organization with "services", among them Welfares and Trade Unions. In 1941, those functions were linked to the *Delegación Nacional de Sindicatos* —hereinafter DNS, National Delegation of Trade Unions— under the control of the Deputy Secretary of Welfares. The assignment of the national delegations of the "Movement" to four deputy secretaries was due to the interest in controlling the "Movement" from top to bottom.[6] It must be taken into account that the State enacted the trade union unity and its organization as a public law corporation.[7] Thus, the single party —*FET y de las JONS*— imposed its control on the so-called *Sindicato Vertical* —Vertical Trade Union—.[8]

The "Movement", gradually established as a public corporation, assigned an enormous and dual functionality to the DNS. On the one hand, labour, socio-economic and political functions of the Vertical Trade Union were managed through the *Organización Sindical Española* —hereinafter OSE, Spanish Trade Union Organization—, subordinated to the party to ensure the submission of workers. On the other hand, we find social and propaganda functions of the Trade Union Welfares of the Movement: a social function to obtain public support through several organisations, which cooperated with the State on "social assistance".[9]

Therefore, the OSH was one of those nine trade union welfares depending on the DNS. Created on December 19th, 1939, eight months after the creation of the INV, its main role was the initiative, projection, construction and management of housing groups, under the funding and legal control of the INV. The OSH was the main welfare of the DNS, accounting for slightly more than 30% of the total budget for "assistance actions" of the OSE (as for 1950).[10] It had a clear political significance given that it provided social housing. His role pursued a double demonstration: the so-called Francoist social concern and the leading role of the DNS, the capital instrument of the single party and the Vertical Trade Union.

Year / *Period*	Building of houses			Family Houses (Total / *Variation*)	Population (Total / *Variation*)
	Total	Social Houses	Non-social Houses		
1940				5,803,361	26,388,311
1940-1945	N.A.	N.A.	N.A.	*+883,839*	*+1,784,052*
1946-1949	N.A.	28,975	N.A.		
1950				6,687,200	28,172,363
1950-1954	N.A.	158,641	N.A.	*+1,039,200*	*+2,604,721*
1955-1959	N.A.	414,018	N.A.		
1960				7,726,400	30,777,084
1960-1964	784,798	700,504	84,294	*+2,932,482*	*+3,264,447*
1965-1969	1,274,465	875,594	398,871		
1970				10,658,882	34,041,531
1970-1974	1,670,275	919,508	750,767	*+4,068,038*	*+3,641,832*
1975-1979	1,598,244	817,009	781,235		
1981				14,726,920	37,683,363

Fig. 2. Housing units built in Spain in relation to the housing stock and the population. Every social housing built is reflected here, by both the OSH and other entities. From the fifties, the construction of social housing —"limited incomes"— increased considerably. Always far below needs.

There were two major lines of work regarding the propaganda of the "Movement", each one with its specialized media agencies: the Deputy Secretary of Popular Education —with its national delegations of National Education, Cinematography and Theatre, Broadcasting, Press and Propaganda— and, the trade union publications and the propaganda of the DNS itself.

The "Movement" had several platforms for spreading its ideological control: around forty newspapers exempt from prior censorship,[11] cinematographic media —*Noticiarios y Documentales No-Do*, News and Documentaries—, a news agency, a network of radio stations and Ediciones del Movimiento, a publishing house with hundreds of books and fifteen magazines and weekly newspapers. The DNS had periodical publications, such as the *Boletín Oficial de la DNS* —Official Bulletin—, the *Revista Sindical*, magazines and bulletins of the National Trade Unions and of the Trade Union Welfares —such as the bimonthly magazine of the OSH, *Hogar y Arquitectura*, published between 1955 and 1977—, as well as several trade union bulletins of territorial demarcations,[12] and all kinds of brochures, reports, catalogues, etc. of the trade union bodies.[13]

OSH'S CONTRIBUTION TO THE PUBLIC HOUSING PRODUCTION IN FRANCOIST SPAIN

With an ideological basis prior to the first housing legislation with public intervention —the so-called "affordable houses"—, Spanish governments throughout the twentieth century understood that property ownership should be promoted rather than rental housing. When in 1939 the protection regime for low-income housing was established —Act of April 19th, 1939—, the aim was building social housing for the sparsely solvent population. That population was supposed to get the property after forty years of fee-paying. When the protection regime for limited-income housing was enacted —Act of July 15th, 1954—, the rationale did not change, extending the profile of the beneficiaries to the middle classes, reducing the relative weight of less solvent

people. Thus, the scheme of a country of owners was consolidated in the long term, where the share of renters declined until it became secondary. In this regard, the propaganda campaign of the OSH called "A house for you" was notorious when the "Home Savings Card" was created in 1946, aiming to promote saving for the mandatory initial contribution, amounted for 10%.

There is a serious problem with statistical information regarding the OSH. As explained by Lanero, even the data of the official contribution to the construction of social housing are difficult to obtain, since they vary depending on the sources and tend "to an excessive valuation of the achievements with a legitimizing purpose",[14] while, as Del Arco points out, "the housing deficit and its deplorable condition became a real national problem".[15]

In 1950, the DNS reported on its activity up to July 18th, 1949 —after ten years of the so-called "New Spain"—. It had built 198 housing groups with a total of 9,800 housing units. In addition, 215 groups were under construction with a total of 15,759 housing units; 49 other groups with 1,500 units were in the auction period and 325 groups with 20,240 housing units were in project or in preliminary stages.[16] Out of this rough amount, 48,299 housing units, only 9,800 of them had been handed over in those ten years of operation, that is, one third of the already built units and far below the real needs, which were counted by several hundred thousand.[17] In contrast, no less than 5,600 propaganda events, 85 visits by foreign personalities, 204 key handovers events and 450,000 propaganda brochures had been made.[18]

Fig. 1. Inauguration of a residential group in Madrid in the fifties by the authorities, led by the Head of State, the General Secretary of the "Movement", the National Delegate of the DNS, the General Director of the INV and the National Head of the OSH.

According to Jubert, the activity of the OSH from 1939 to 1954 was reduced to the construction of "24,373 housing units —38% of those built by the State— facing the existing deficit of 1,000,000" and between 1954 and 1957, "76,526 units —39.4% of those built with state protection and up to 21.4% of the total built in Spain—". This last percentage dropped to 12.3% in 1958-1960, to 4.8% in 1961-1964 and to 2.2% in 1968-1970, although it recovered to 6.8% in 1973. [19]

During the period of abandonment of the failed autarkic policy, throughout the fifties, several legal changes took place. The Decree-Act of May 14th, 1954 entrusted the INV with the management of a "social housing" plan and the Decree-Act of May 29th, 1954, assigned to OSH the planning of the construction of 20,000 housing units annually. Furthermore, the Act of July 15th, 1954 on the protection of "limited-income housing units" and its Regulation —Decree of June 24th, 1955— where approved. Those regulations provided indirect benefits to the homes of the so-called "first group" and, in addition, economic aid from the State to those of the so-called "second group", expanding the range of intervention to the middle classes and promoting private investment. Thus, the Decree of July 1st, 1955 authorized the INV to build 550,000 limited-income housing units in five years according to a First National Housing Plan 1956-1960, in which the OSH was responsible for building 175,000 units, 32%. The Act of November 13th, 1957 on the Social Emergency Plan of Madrid and the Decree of November 22nd, 1957, which regulated the "subsidized housing" as a new category, were also approved in order to "return to the private initiative as an essential source of construction and to establish the precise incentives".[20] The political shift from autarky to developmentalism —which resulted in the so-called "Spanish Miracle"— involved the gradual abandonment of direct State intervention and a change of approach: the "economically weak classes" had to wait for the construction of social housing —which only accounted for 9% of the expected total to be built by INV—, while the bulk of political action was destined for "middle-level families".

The OSH distributed its efforts in all the Spanish provinces, both in the rural and urban areas, although it was mostly focused on the cities. It is known that Francoist dictatorship was a regime where corruption was nothing strange, and so did the OSH. For example, Bernal pointed out that "in 1951, it was discovered that most of the housing units that the OSH was building in Madrid's Sierra were not handed over to workers as permanent housing, but to people from well-off classes, destined for holiday residences".[21]

THREE MEANINGFUL CASES: *BARRIADA JUAN YAGÜE* (BURGOS, 1945-1950), *BARRIO DE SAN MATÍAS* (COVALEDA, SORIA, 1953-1962) AND *GRUPO XXV AÑOS DE PAZ* (VALLADOLID, 1962-1967)

As illustrative examples of the performance and propaganda of the OSH during Francoist dictatorship, three complementary cases located in three different locations in the current region of Castilla y León are synthetically explained below: one in the city of Burgos from the autarky period, another in a town in the province of Soria as a case of privileged action by the "Movement", and finally a case of the developmentalism of the sixties in Valladolid.

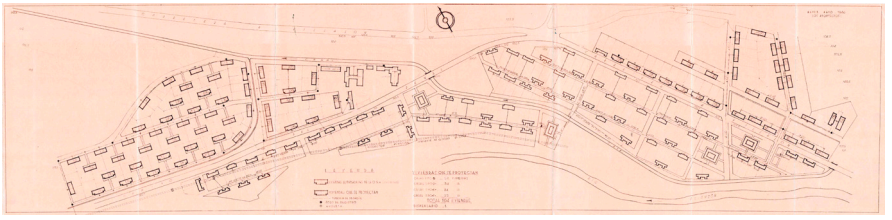

Fig. 2. Site plan of the Barriada Juan Yagüe. Burgos, 1947

Starting with a neighbourhood in Burgos called *Barriada Juan Yagüe*, it is the second OSH action in a city that had grown a lot in population —as it hosted the headquarters of Franco and his governments during the Civil War—, so housing was one of its main needs in the forties. The OSH had already built a small group of 117 homes between 1942 and 1944 and the construction of another 456 units was planned, which, however, was preceded by the one that is described here, with 316 homes and carried out between 1945 and 1950. They were public actions of social housing that barely cover the needs, considering that the mayor of the city recognized in January 1945 that at least 2,500 families lived in not even minimum conditions of health.

In 1945, the captain-general of the Sixth Military Region, Juan Yagüe Blanco —one of the few Falangists called *camisas viejas* among the generals— personally promoted a neighbourhood of "ultra-cheap houses" for the neediest population of the city. He achieved its prioritization by the local authorities and the OSE. Thus, until the end of the decade, the so-called *Barriada Juan Yagüe* had an effective preference in the limited public investments. In order to speed up what he understood as one of his "national regeneration" projects, Juan Yagüe counted on the DNS and the OSH, with the surprising collaboration of the *Servicio Militar de Construcciones* —hereinafter SMC, Military Construction Service— as well as with extraordinary non-refundable funding that he got from his comrade the Minister of Labour. It was a personalist initiative that was followed by other similar operations in the area of the Military Region under the command of this victorious Castilian general.

The land for the neighbourhood was chosen and acquired by the DNS in the outskirts of the city. The SMC built the neighbourhood following the commission of the OSH, elaborated the projects for free and renounced to the usual benefit of 15% of the budget. The OSH obtained the necessary mortgage credit through the captain-general, while the INV only intervened when the neighbourhood was practically built and imposed some urbanization conditions. The captain-general managed to involve the National Delegation of Social Assistance —with a centre for children's feeding—, the Welfare *18 de Julio* —with a medical dispensary—, the Ministry of Labour —non-refundable funding—, the Ministry of Justice —with a parish church and rectory house—, the Ministry of National Education —with a school group and teachers' houses— and the Welfare for Education and Leisure —with the so-called *Hogar del Productor*, a sort of leisure centre—. The neighbourhood was composed of ground floor houses —suitable for temporary agricultural labourers, according to the INV— of varied typology, mostly semi-detached houses, of about 50 m^2 —kitchen, dining room, living room and three bedrooms— on plots of 375 m^2 on average, where their occupants could grow a garden and breed animals.

Fig. 3. Site plan of the modified project of the Barrio de San Matías in Covaleda.

As "ultra-cheap" houses, their repayment fee was low enough. The allocation was made for large and needy families. Families of 6 to 13 people accounted for 80.5% of the 152 houses within the first phase and for 64.6% of the 164 houses within the second phase, so that the 316 houses were occupied by around 2,100 people, the vast majority children and young population. As proof of its political significance and its role in propaganda, national authorities visited the new neighbourhood with the captain-general on every official visit to Burgos from 1945 to 1951 —several ministers, the national delegate of the DNS and Franco himself twice—. It was widely disseminated by the press and radio, especially in the local newspaper of the Movement, *La Voz de Castilla* (1945-1976), and in the trade union bulletin of Burgos, *Vertical*.

The second case corresponds to the rural mountain municipality of Covaleda —province of Soria—, which had about 1,500 inhabitants at the end of the Civil War. The OSH announced in 1945 the possible construction of an isolated set of 16 protected one-storey houses on a plot ceded by the City Council in the outskirts, with the municipal commitment to building accesses. This coincided with the installation 3 km far from the village of the *Campamento Nacional de Mandos Francisco Franco*, a camp where to provide instruction for junior commanders of the Falanges Juveniles de Franco —since 1960, *Organización Juvenil Española,* Spanish Youth Organization—. Exalted by propaganda, articles and newscasts followed their activities, including the indoctrination of thousands of national teachers. It should be noted that Franco himself visited the town in 1948 thanking the neighbours.

Fig. 4. Site plan of the Grupo XXV Años de Paz. Valladolid, 1964.

The initial housing project of the OSH did not eventually materialize, but the building charity *Francisco Franco* of the province of Soria elaborated in 1953 a new project for 56 "rural" subsidized houses and plots for 72 more possible units. They were one-storey semi-detached houses with around 58 m2, including living room, kitchen, toilet and three bedrooms, together with units for animals, feed and manure, in plots from 180 to 210 m2. The project proposed a new neighbourhood, called *Barrio de San Matías,* which was separated from the original settlement of Covaleda by a thalweg. A curvilinear road structured several pedestrian and carriage ways giving individual access to each residential plot. Other plots were reserved for green areas, a public building in a central position, a chapel and a children's home. Before this project materialized, it passed to the OSH. A new report in 1957 identified the houses as "limited income, 2nd category" and considered a church, a market and schools as facilities, "which will not be projected for now". The auction for its construction was published in October 1958, which was concluded in March 1962 after some modifications in materials and budget.

Coinciding with the project, the construction and the occupation of the new neighbourhood between 1955 and 1969, the City Council of Covaleda undertook all kinds of improvement works in the municipality: streets and squares paving, drinking water and sewerage networks, electricity networks and public lighting, etc., as well as a collector and telephone service for the camp. Thus, the OSH built a rural residential group, in line with its role of social assistance, although more in line with the political relations of the "Movement". The propaganda was both national, linked to the camp, and regional and local, by the newspapers of the "Movement" in the nearby provinces and the trade union bulletin of Soria, *Recuerda*.

Finally, the third case corresponds to the city of Valladolid, where the OSH carried out its last action in the mid-sixties. In August 1960, the Provincial Delegate of the DNS addressed the City Council of Valladolid in relation to the new housing plans of the State, asking about the amount and type of housing to be considered as most suitable for construction. The City Council indicated its preference for small and low-cost housing —with three bedrooms, dining room, kitchen and toilet—, as many as possible. It should be noted that in the following months a real housing construction boom for working classes began in Valladolid. Taking advantage of the subsidies and the new favourable economic situation within the developmentalism, various private developers built large amounts of housing, producing neighbourhoods that lacked public facilities. Thus, between 1960 and 1964 licenses were requested for the construction of more than 15,000 housing units in the city.

In this context, the OSH initiated in 1962 a project to build just 503 dwellings, led to get visibility because of its "quality". Compared to contemporary neighbourhoods, the OSH presented a very well-equipped project, including two schools, a nursery and a leisure centre. Instead of the alignments of blocks that were shaping the periphery, a different arrangement was proposed, with three "American blocks" combined with towers, equipped with an elevator. The project was presented in 1964 under the name of *Grupo XXV Años de Paz,* referring the twenty-fifth anniversary of the end of the Civil War, very celebrated by Franco's regime. Works began the following year and lasted for almost two years.

The adjudication process was carried out in 1967 after a raffle held in the assembly hall of the provincial delegation of the DNS, which allowed expanding the resonance of the project among the local society and press. In addition, half of the homes were reserved for certain profiles that allowed verifying the social action carried out by OSH through this promotion: 10% for some ex-soldiers of the Francoist Army and their widows; another 10% for those who had married that year; and 30% for heads of large families. In addition, 60 homes were reserved for people living in shanty towns, re-rented and evicted. The keys-handover took place a few weeks later in a public event that coincided with the symbolic date of July 18th. Among others, the civil governor and the archbishop of Valladolid were in charge of delivering the keys and titles to the awardees, although the contracts were formalized a few weeks later.

The 500 dwellings of *Grupo XXV Años de Paz* represented a minimum part of the thousands of homes that were built in Valladolid in the sixties. However, the condition of "prestige operation" that the OSH granted to this project in terms of its composition and facilities, as well as the careful process of housing adjudication —public events, reservation of homes for certain especially vulnerable groups—, guaranteed a remarkable impact among local society, in propaganda terms. In Valladolid, the "Movement" had the generalist newspaper *Libertad* (1931-1979), as well as the trade union bulletin of the provincial demarcation of the DNS, *Tierra*. The press was, as always, very relevant in propaganda.

CONCLUSIONS

The role of the OSH was relevant in the context of direct public housing construction, but insignificant in relation to social needs, despite the fact that its actions were shown, with the force of propaganda, as really notorious. As González and Ortiz have pointed out, the OSH was a vehicle "for propaganda, proselytizing, disciplining and political loyalty of its beneficiaries" while "the problem of housing for the popular classes remained unsolved throughout the dictatorship".[22] The OSH built tens of thousands of housing units when real needs were counted by several hundred thousands.

The OSH production was very diverse, bearing in mind its national scope and its long existence (1939-1977). Its systematic study, still to be done, is worthwhile regarding urban planning, housing policy and social statistics. The three cases that have been presented are just a significant sample of this diversity.

ACKNOWLEDGEMENTS

This contribution has been prepared in the framework of a research project on the performance of the OSH in the nine provinces of the current Spanish Autonomous Community of Castilla y León whose director is professor María A. Castrillo Romón.

DISCLOSURE STATEMENT

No potential conflict of interest was reported by the author.

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2. Rosario Sánchez López, "El sindicato vertical: dimensión teórica y ámbito pragmático de una institución del franquismo. El ejemplo de Murcia" (PhD diss., Universidad de Murcia, 1999); Antonio Cazorla Sánchez, "Las políticas de la victoria. La consolidación del Nuevo Estado franquista (1938-1953)" (Madrid: Marcial Pons, 2000); Carme Molinero, "Falange y la construcción del régimen, 1939-1945. La búsqueda de unas bases sociales, en Falange", in *Las culturas políticas del fascismo en la España de Franco (1936-1975)* ed. Miguel Ángel Ruiz-Carnicer, 181-198 (Zaragoza: Institución Fernando el Católico, 2013); Daniel Lanero Táboas, "Las «políticas sociales» del franquismo: las obras sindicales", in *No solo miedo. Actitudes políticas y opinión popular bajo la dictadura franquista (1936-1977)*, ed. Miguel Ángel del Arco Blanco, Carlos Fuertes Muñoz, Claudio Hernández Burgos & Jorge Marco Carretero (Granada: Comares, 2014).
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5. The OSH was the most relevant instrumental body of the INV but not the only one, since there were also some bodies of the Deputy Secretary of Welfares (Social Assistance, Education and Leisure), Housing Boards of various kinds (Building Charity Francisco Franco, official housing boards of the ministries…) and other entities of the Administration working directly for their employees (Autonomous Bodies, City Councils, etc.). In addition, apart from the INV, the General Directorate of Devastated Regions and the National Institute of Colonization also built public housing.
6. Article 23 of Decree No. 333 of August 4th, 1937; Decree of July 31st, 1939; and article 3 of the Decree of November 28th, 1941.
7. Miguel Ángel Perfecto, "El nacional-sindicalismo español como proyecto económico-social", *Espacio, Tiempo y Forma*, Serie V Historia Contemporánea nº 27 (2015). 153.
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9. Miguel Ángel Perfecto, "El nacional-sindicalismo español como proyecto económico-social", Espacio, Tiempo y Forma, Serie V Historia Contemporánea nº 27 (2015). 157.
10. Francisco Bernal García, "El sindicalismo vertical. Control laboral y representación de intereses en la España franquista. La Delegación Nacional de Sindicatos (1936-1945)" (PhD diss., European University Institute, 2008). 591.
11. Considering the number of newspapers, the press of the "Movement" accounted for more than 40% of the press in Spain in the forties and fifties, although it was losing weight up to less than 25% in the sixties and seventies. By its diffusion, it supposed from 32.5% of the units printed in 1946 to 21.6% in 1966, and decreasing later on. Among them, the most important were: *Arriba* (official newspaper of *FET y de las JONS*), *Pueblo* (OSE's newspaper) and *Marca* (the most read newspaper of the "Movement", precisely the one dedicated to sports).
12. The bulletins of the provincial delegations of the DNS were, for our three study cases: *Vertical* in Burgos, *Recuerda* in Soria, and *Tierra* in Valladolid.
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19. Juan Jubert, "La OSH y la política de vivienda. La política de vivienda del Estado y la OSH. Una cronología paralela", *Quaderns d'arquitectura i urbanisme* nº 105 (1974), 43.
20. Article 10 from the mentioned law.
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22. Damián A. González Madrid and Manuel Ortiz Heras, "El franquismo y la construcción del Estado de Bienestar en España: la protección social del Estado (1939-1986)", *Pasado y Memoria. Revista de Historia Contemporánea* nº 17 (2018). 369.

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Illegality as a tool of spatial rule
The paradox of informal urbanization development in francoist Madrid (1940s-1960s)

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Abstract

At the beginning of Franco's dictatorship, the outskirts of Madrid increasingly concentrated poor populations living in chabolas, shacks without sanitation or infrastructures in areas that today we would call of "informal" urbanization. Although those spaces already had become illegal since the 1920s, under the new regime they grew up explosively, arriving to host a population of around 150.000 inhabitants in 1949, and remained a massive cheap housing solution in the city until the arrival of the democracy. Founded in a research on planning, police and administrative archives in Madrid, we propose to analyze how informal urbanization developed in a regime grounded in extensive levels of social surveillance control. Our hypothesis, is that the public powers strategically balanced between the repression and tolerate towards that kind of urban growth. By one side, chabolas clashed frontally with the declared goals of the new regime. Those zones were considered shameful for the dictatorial regime, were inhabited by populations qualified as "uncivilized", and its way of life was as a "moral threat". As a consequence, various laws were enacted to permit the demolition of those spaces, and in 1946 a masterplan was approved to transform the city into the representative capital of a new Spanish empire, zoning as non-constructible the areas were the shacks had been developed, something that should lead to the middle-term disappearance of the shacks. However, the lack of activity of private developers in the production of low-income housing seemed to conduct the authorities to turn a blind eye over the chabolas illegal development. The commercialization of private lands zoned as green spaces for the development of shacks was tolerated during the first decade of the new government, and although throughout the 1950s the authorities started to impede the development of new illegal constructions, the existing ones were respected, to the point of being occasionally used as "de facto" social housing to temporary settle evicted populations. Although in 1961 a large "Plan de Absorción del Chabolismo" was approved to eradicate chabolas and resettle their populations in social housing states, the new social housing areas were often developed in contradiction with existing planning. In addition, internal documents of the Madrid Comisaria de Urbanismo showed how only a part of the illegal areas –the more profitable for their redevelopment- were initially planned to be evicted. In conclusion, despite the rhetoric of the discourses, in francoist Madrid the planning legality was selectively implemented. The inability of the government to produce cheap social housing without implementing redistributive policies, seemed to led to an equilibrium

between repression and tolerance regulated by real estate market. As a result, urban planning enforcement was not conceived as a tool to enable a rational process of urban growth, but rather as a tool for governance and capital gains capture through the flexible use of illegality.

Keywords

Informal Urbanization, Shantytowns, Madrid, Franco Dictatorship, Chabolismo, Urban Planning, Illegality

How to cite

Manzano Gómez, Noel Antonio; "Illegality as a tool of spatial rule: the paradox of informal urbanization development in francoist Madrid (1940s-1960s)" (1939-1977)". In Carola Hein (ed.), *International Planning History Society Proceedings*, 19th IPHS Conference, City-Space-Transformation, TU Delft, 5 - 6 July, 2022, TU Delft Open, 2022.

Urban planning and housing policies in democratic Spain
Contradictions between housing production and the right to housing (1978-2008)

Miguel Fernández-Maroto, Víctor Pérez-Eguíluz, Marina Jiménez Jiménez, Juan Luis de las Rivas Sanz
University of Valladolid

Abstract

The Spanish Constitution of 1978 included the right of all Spaniards to enjoy decent and adequate housing and stated that the public authorities shall promote the necessary conditions to make this right effective. In the following three decades, there has been a massive housing production in Spain, but the right to housing, as constitutionally recognised, remains unfulfilled. This paper aims at approaching to the roots of this contradiction between the enormous housing production and the persistent need of affordable housing through an analysis of urban planning and housing policies throughout this period, when a new framework of shared powers between the Spanish central government and the regional governments has gradually entered in force. The results of this analysis, also illustrated through a case study, allow to state that housing policies have been conceived more from the economic point of view —the contribution of the real estate sector to the Spanish economy— than from the social point of view —fulfilling the constitutional right to decent and adequate housing—.

Keywords

urban planning, housing policies, Spain, democracy, right to housing.

How to cite

Fernández-Maroto, Miguel; Pérez-Eguíluz, Víctor; Jiménez Jiménez, Marina; de las Rivas Sanz, Juan Luis; "Urban planning and housing policies in democratic Spain: Contradictions between housing production and the right to housing (1978-2008)". In Carola Hein (ed.), *International Planning History Society Proceedings*, 19th IPHS Conference, City-Space-Transformation, TU Delft, 5 - 6 July, 2022, TU Delft Open, 2022.

DOI: 10.7480/iphs.2022.1.6476

INTRODUCTION

The Spanish Constitution of 1978 recognizes in its article 47 that "all Spaniards have the right to enjoy decent and adequate housing". To this end, it states that "the public authorities shall promote the necessary conditions and establish the relevant rules to make this right effective, regulating the use of land in accordance with the general interest to prevent speculation".[1] These constitutional principles reflect several ideas that guided the reform of the Land Act that had been adopted a few years earlier, in 1975. Its preamble referred to a context of "increasing or unjustified prices of land suitable for the growth of cities" which had led to "the increase in the price of housing in all its categories" or the "misappropriation by private owners of a significant part of the capital gains resulting from the urbanization process". In response, this Act made the urbanization processes more flexible in order to increase the supply of land and thus reduce its price, and at the same time established mechanisms to "rescue a part of the urbanization gains in the form of building land".[2]

It should be noted that, in the current democratic period, the implementation of these principles of combating speculation and guaranteeing decent housing has had to be adapted to the distribution of powers defined in the Constitution itself between the State —Spanish central government— and the Autonomous Communities —regional governments—.[3] On the one hand, the normative regulation of urban planning and housing has been gradually assumed by the Autonomous Communities, except for some basic aspects —linked to the right to property— regulated by the State Land Act. On the other hand, the State, as the body responsible for coordinating the general planning of economic activity, has provided funding for housing production through successive State plans.[4]

Since then, and until today, there has been a massive production of housing in Spain. However, the right to housing recognized by the Constitution has not been fulfilled. A quick look at some data allows us to understand this apparent paradox.

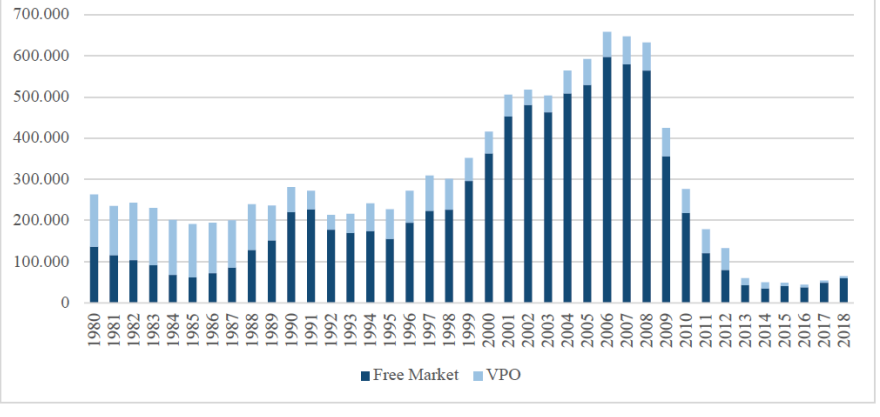

Fig. 1. Housing production in Spain between 1980 and 2018 (units).

The Population and Housing Census of 1981 counted 37,679,686 inhabitants and 10,430,902 main family dwellings, while the Census of 2011 brought these figures up to 46,815,994 inhabitants and 18,083,693 main family dwellings. In other words, the population has grown by just over 9 million people —24%—, while dwellings have increased by 7.6 million —73%—: one new home has been added for every 1.2 inhabitants.[5] However, according to the data on housing production (Figure 1), it can be seen that the weight of the so-called *Vivienda de Protección Oficial* —hereinafter VPO, with public support and aimed at the population with greater difficulties in getting a house, thanks to an specific regulation—[6] has drastically reduced with respect to the free market: it has gone from an average of 55% in the 1980s to 23% in the 1990s and barely 11% in the first decade of the 21st century —at the time of maximum real estate production, with more than half a million homes per year—.

Furthermore, this has coincided with a progressive increase in housing prices that also accelerated at the turn of the century, making access to housing extremely difficult. Until the year 2000, Spanish families had to spend around four years of gross salary per capita to buy a house, but since then this effort grew rapidly until it was close to nine years in 2007, currently remaining around seven years (Figure 2).

This paper seeks to address the causes of this persistent, even aggravated, difficulty in accessing affordable housing in a context of massive production of housing. To this end, the main characteristics and the relationships between the housing and urban planning policies that have been applied in this period will be analysed, also contrasting them with what has happened in a Spanish city, Valladolid, to obtain a series of conclusions.

ANALYSIS OF URBAN PLANNING AND HOUSING POLICIES AND THEIR RELATIONSHIPS AT THE STATE LEVEL

The policies on urban planning and housing that have been developed in Spain at the State level during the current democratic period have been conditioned by the adaptation to the aforementioned framework of shared powers between the central and regional governments, in clear contrast to the exclusive and enormous protagonism of the State during the dictatorship of Franco (1939-1975). The foundations for the transition from the previous model to the new one were laid in the late 1970s and early 1980s and evolved in the following decades.

STAGE 1 (1978-1990): NEW BASIS FOR LAND AND HOUSING POLICY

After the reform of the Land Act that was passed in 1975, the central government —of the centre-right UCD party— updated the specific regulations on housing by means of Royal Decree-Act 31/1978. It unified the different types of social housing existing until then into a single category —the abovementioned VPO— and reformed the financing system with the dual objective of reactivating the construction sector —at a time of economic crisis— and creating "a large secondary mortgage market".[7] Although the regulations contemplated both renting and

owning, it is evident that the latter remained the preferential option,[8] based on a combination of direct aid and also tax exemptions and rebates for both purchasers and developers of VPO. It should be highlighted that this kind of tax benefits has played a key role in Spanish housing policy throughout this period.

Once the Constitution was approved in December 1978, the State soon gave up direct development activity in both residential land and public housing, which remained under the responsibility of the new regional governments,[9] and concentrated its action on financing VPO through the so-called housing programmes or plans.

The first one was the programme for the construction of social housing 1981-1983,[10] which focused on helping to overcome the economic crisis through the construction of VPO. To this end, the aim was to mobilise the financial system by means of public subsidies, with the target of starting the construction of 571,000 homes, of which 90,000 would be publicly promoted and another 144,000 financed directly by official credit institutions. The programme was aimed directly at the "typical clientele of savings banks" —i.e. the middle classes—, which is consistent with the fact that most of the subsidies were referred to private credit institutions.

The second one was the four-year social housing plan 1984-1987, which continued the path marked by the previous one, focusing on home ownership. Personal subsidies were established to reduce the initial contribution to the purchase of VPO, and both loans for the promotion and purchase of housing and the subsidization of their interest rates were increased.[11] Loans at rates agreed with financial institutions and, where appropriate, the subsidization of these loans by the State were consolidated as the mainstay of State housing policy in the late 1980s. At the same time, greater coordination was sought with other public bodies with powers in the field of housing, at a time when the Autonomous Communities had already been consolidated.[12]

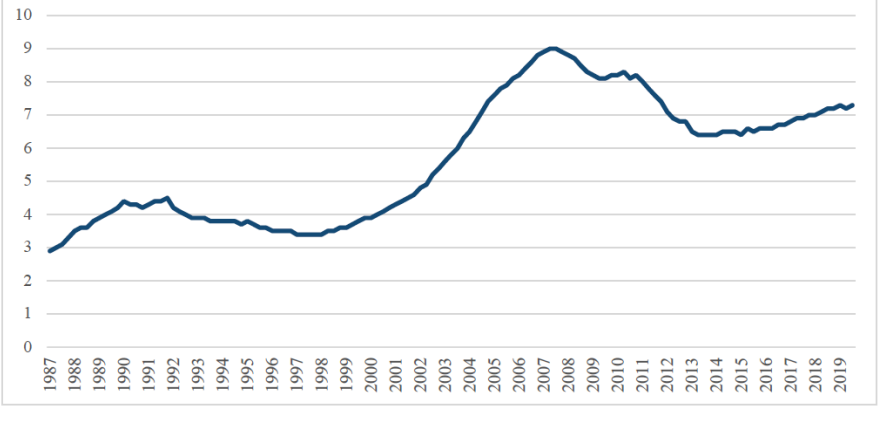

Fig. 2. Average house price/gross disposable household income (per capita) between 1987 and 2019.

STAGE 2 (1990-1998): PUBLIC INTERVENTION IN THE MARKET COMBINED WITH TAX INCENTIVES

Despite all these measures, housing prices in Spain experienced a constant increase during the second half of the 1980s.[13] The central government —controlled by the PSOE, a left-wing party, since 1982— linked this increase to the increase in land prices, which led it to promote a new reform of the Land Act that was approved in 1990.[14] The explanatory memorandum denounced "the excessive permissiveness enjoyed by land owners", as well as "the rigidity, if not absence" of instruments in the hands of the Administration to intervene in the land and housing markets.

As a result, this legal reform regulated in detail the entire development and building process, so that owners were only granted their rights —to develop, to build, etc.— as long as they fulfilled the corresponding obligations —of cession of land, of balanced distribution of building rights, etc.—.[15] The tax regulation and valuation of the land also followed this rationale, establishing mechanisms for direct intervention by the Administration —such as expropriation— in the event of non-compliance, and also for the construction of VPO.[16] Likewise, its capacity to intervene in the market was reinforced, extending the transfer of building rights, promoting public land estates and regulating the right of first refusal in the case of sale of VPO —permitted by Spanish legislation—.

The same reference to "the insufficiency of the regulatory instruments in force to effectively address the problems of access to housing for large segments of the Spanish population" led to the approval at that time of the Housing Plan 1992-1995.[17] This plan defended the need for coherence between "public actions on land and urban planning with housing objectives", which should involve a sufficient contribution of public land at appraised cost. Although support for owning was maintained,[18] the plan also included the "promotion of the supply of moderately priced rental housing, as a desirable alternative for a wide range of housing demanders".[19] Likewise, the agreements between the Ministry of Public Works and the Autonomous Communities were regulated in order to respect the powers in the field of housing and urban planning that the latter had assumed.

This plan financed more than 400,000 housing actions —and land for more than 100,000 homes—, mostly for middle- and low-income people, but it did not solve some persistent problems. For example, when its continuity was approved for the period 1996-1999, it was pointed out that "the supply of rental housing is insufficient in quantity" and "is inadequate, due to high rental prices". However, this did not prevent the State from continuing to promote the mortgage market, increasing the supply through the new Real Estate Investment Funds that had been created in this same period.[20]

However, the reorientation of the State framework in urban planning and housing represented by these plans and, especially, by the Land Act of 1990 had a very short course. This reform was in force for barely seven years, as it was almost completely annulled by the Sentence 61/1997 of the Constitutional Court, which took up the appeals that had been submitted by the governments of several Autonomous Communities on the grounds that their powers were

being encroached upon. This certified the "transition to the definitive post-constitutional legislative model in urban planning", in which all the Autonomous Communities approved their own law on urban planning.[21] In addition, in 1996 there had been a change in the central government —which was passed to the PP, a right-wing party— and all this resulted in a new reform of the Land Act that was approved in 1998 with postulates that were opposed to the previous ones.[22]

STAGE 3 (1998-2008): LAND LIBERALIZATION AND PROMOTION OF PURCHASE

In line with the aforementioned sentence, this reform of the Land Act concentrated on regulating a series of aspects linked to property rights,[23] leaving the detailed regulation of the urban planning system definitively in the hands of the Autonomous Communities. In terms of its approach, the reform was linked to "the necessary structural reform of the Spanish economy", and it argued that in order to curb the shortage and land speculation —and its consequent effects on economic activity— it was necessary to increase supply. Consequently, and following a liberalising rationale, it chose to allow the urbanisation of any land that was not specifically excluded for some justified reason. Thus, it opted for "a development model: land for development is no longer that land considered necessary on the basis of estimates, but any land".[24] In the end, this liberalization of the land market failed in moderating prices. On the contrary, it contributed to the generation of the well-known Spanish "real estate bubble": housing production and prices tripled, until the collapse of the real estate sector in 2008.[25]

The housing plan for the period 1998-2001 assumed the same postulates of that reform, indicating as objectives "the generation of urbanized land with moderate repercussions on the final price of new housing, in order to anticipate and reinforce the effects of the recently approved Act 6/1998 of 13 April" or "to contribute to guaranteeing and maintaining an adequate level of activity and employment in the housing sub-sector".[26] In a context of a wide range of mortgage loans and very low interest rates, the direct aid and qualified loans regulated in the plan, together with the existing tax deductions —also for free market—, undoubtedly contributed to boosting the purchase of housing. Thousands of families were able to buy a dwelling, but large groups of the population —more specifically, young people— still had enormous difficulties in accessing to it.[27]

In fact, the following plan, approved for the period 2002-2005,[28] recognized that "large groups of the population with medium and low levels of income, and especially young people, have been increasingly unable to access moderately priced housing", after noting both the low supply of rental housing and the reduction in the production of VPO. In view of this, the financing system proposed by the plan sought to promote the building of subsidized housing for rent, but at the same time, the mechanisms for aiding the first purchase of housing, as well as the stimuli for urbanization of land —preferably for subsidized housing— continue to be active.

After a new shift in the central government —which returned to PSOE in 2004— the new housing plan for the period 2005-2008 noted that the enormous production of housing in previous years had not solved "the social problem of access to housing that affects many citizens". It

also noted the failure of the objectives set out decades ago, stating that "speculation has made access to housing even more difficult and in many cases prevented a large number of people from doing so". In view of this reality, the need to "achieve the constitutional goals" is once again stressed, but then reference is made once again to the "multiplier effect that boosting the activity of the construction sector has on economic development and, in particular, as an element that generates employment".[29]

A few years before the bursting of the real estate bubble that closed a thirty-year cycle, these considerations of economic nature reveal some possible causes of the failure of State housing policies to guarantee the aforementioned constitutional aims of access to decent and adequate housing.

VALLADOLID AS AN EXAMPLE OF REAL ESTATE PRODUCTION AND URBAN DEVELOPMENT PROCESSES

The evolution of urban planning and housing policies in Spain during this period has logically been reflected at the municipal level, so that the observation of the processes of urbanisation and housing production in a specific case illustrates what was indicated in the previous section. The case of Valladolid, one of the main cities in the northwest of Spain, has been chosen for this purpose, as it has adjusted its municipal-scale urban planning —*Plan General de Ordenación* Urbana, hereinafter PGOU— to the abovementioned successive reforms of the Land Act —1975, 1990 and 1998—.[30]

According to the records of the City Council of Valladolid, between 1984 —when the new PGOU adapted to the Land Act of 1975 was approved— and 2012 —when its revision began, coinciding with the moment of maximum weakness of the real estate production in the city after the crisis of 2008— licenses have been requested for the construction of 54,506 houses (Figure 3).[31] This quite remarkable real estate production —an average of almost 2,000 dwellings per year— contrasts with the fact that the city has lost around 8,000 inhabitants in the same period, which reflects a housing market fuelled by internal population movements, first within the city itself and then between the city and the rest of the municipalities that together make up the current urban area.[32]

Of this total of 54,506 homes licensed during this period, 13,607 correspond to homes with some form of public support —almost 25% of the total, including 1,569 homes in direct public promotion, which represent less than 3% of the total—. However, the promotion of subsidised housing has not been homogeneous throughout this period, but rather three main stages can be distinguished, which coincide with those defined in the previous sections at a national level and also reflect the evolution of municipal policy in this period.

During the 1980s, the City Council of Valladolid maintained a double urban development policy. On the one hand, it promoted inner reform actions in the suburbs of the city. On the other hand, it favoured the fulfilment of the large development plans inherited from the 1970s, sev-

eral of which have been publicly promoted. As a result, the production of VPO was very high during this period, with an annual average of over 50%, while direct public housing, carried out by the regional government —*Junta de Castilla y León*— reached 399 homes between 1985 and 1989. However, it should be noted that this barely covered 12% of the needs, as 3,205 families were recognized in the procurement processes for these publicly promoted homes.

The beginning of the 1990s brought important shifts in the city's real estate and urban planning situation. The sharp drop in the production of VPO, together with the context of rising housing prices at the State level, placed Valladolid at the top of the list of most expensive cities in Spain regarding housing. This situation favoured that young people moved from the city to the surrounding municipalities, where the price of land, and consequently of housing, was much cheaper.

As a reaction to this situation, the City Council of Valladolid launched an ambitious urban planning and housing policy action. While adapting the PGOU to the Land Act of 1990, it set up in 1993 the Municipal Land and Housing Society —VIVA— and promoted the urbanisation and construction of a new neighbourhood in the south of the city —*Parque Alameda*—. Although this was a municipal initiative with a capacity for 1,984 homes, only 276 were publicly promoted —by the regional government—, while the other plots were sold by VIVA for the promotion of VPO by cooperatives or private companies.[33] The objective of the City Council was therefore not to cover the demand for housing of the lower classes, but rather to offer affordable, owned housing to the city's middle classes, who were finding this same product in the surrounding municipalities.[34]

From 1998 onwards, real estate development in the city participated in the boom experienced at national level, led by free market housing and facilitated by a new modification of the PGOU that was approved in 2003 in line with the Land Act of 1998. Although the promotion of VPO did not fall as much as at the national level —it remained at around 20% on annual average—, it continued to be mainly aimed at the middle classes,[35] while direct public promotion —shared between the regional government and VIVA— remained scarce, although needs were covered to a larger extent. Between 1998 and 2001, 271 homes were promoted for sale, covering 38% of the 712 approved applications. From 2004, public housing for rent appeared in the city for the first time.[36]

CONCLUSIONS

The causes of the paradoxical contradiction between the massive production of housing in Spain since the beginning of the current democratic period and up to the crisis of 2008 and the persistent demand for affordable housing for the most disadvantaged classes can be found, at least in part, in the way that public policies on urban planning and housing have been conceived throughout this period.

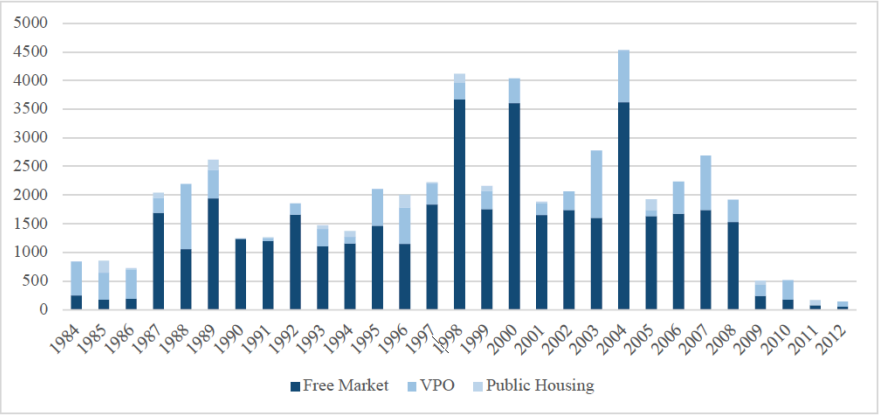

Fig. 3. Housing production in the city of Valladolid between 1984-2012 (units).

During these three decades, successive central governments have understood these policies more from the economic point of view —the contribution of the real estate sector to the Spanish economy— than from the social point of view —fulfilling the constitutional right to decent and adequate housing—.

Even from opposed postulates —intervention versus liberalization—, successive reforms of the Land Act have always been aimed at guaranteeing enough supply of land to allow the construction of large quantities of housing. At the same time, State housing policy has been oriented to guarantee the sale of all this production —in a context of ever increasing prices—, fostering the growth of the real estate sector, which has also supported economic growth and employment in Spain during this period. It is also worth noting the involvement of the banking institutions, which financed both the promotion and the acquisition of housing, also counting on the direct or indirect support of the State.[37]

According to these economic objectives, the model of new and owned housing inherited from the previous period was consolidated, but transferred to the free market, since it was the best option for many families whose incomes slightly exceeded the limits established for VPO but could benefit from tax deductions. That contributed to the decline in the production of VPO, which was also not an option for the population with very low incomes, such as the younger. Their incomes did not meet the minimum threshold to acquire a VPO, while neither the successive housing State plans nor the action of other public authorities —with a few exceptions— provided a viable solution, such as public estates or renting, an alternative to owning that has not achieved relevant results in this period in Spain.[38]

Another factor to be considered is the complex consolidation of the legal framework established by the Constitution in 1978. The transition from the previous centralized model to a system of shared powers between the central and regional governments has not been free of conflict —as shown by the annulment of the reform of the Land Act of 1990— and has undoubtedly affected direct public promotion, following the disappearance of the State bodies

that had been intensely involved in it. Moreover, the role played by the City Councils has to be considered, because on some occasions —as shown by the case of Valladolid— they have used housing policy as a means to achieve other different objectives of a local nature, while they have not taken advantage of the possibilities that urban planning legislation could offer to promote municipal housing policies.[39]

However, the crisis that burst in 2008 completely changed the scenario. Free market sank —prices were even lower than those of VPO in some cities—, while evictions multiplied,[40] as well as the demand for affordable housing in a context of very high unemployment rates, which eventually fostered a change in the orientation of public policies in Spain in the field of urban planning and housing.

At the State level, the reform of the Land Act that had been passed in 2007 assumed for the first time the principle of sustainable development and put an end to the model of urban expansion in force until then, while the approval of Act 8/2013 of June 26, on urban rehabilitation, regeneration and renovation has sought to reorient the real estate sector towards these actions instead of creating new neighbourhoods. The three State housing plans that have been approved since then —2009-2012, 2013-2016 and 2018-2021— have also assumed this change of model, focusing on financing rehabilitation actions and on the promotion of renting, while tax deductions for the purchase of housing expired since 2013 for new beneficiaries.

Regarding the Autonomous Communities, many have passed their own legislation on the right to housing in recent years, completing the long process for assuming their powers that began in 1978. Thus, they now have a complete and updated regulatory framework, although its effective implementation continues to be conditioned by the scarcity of resources, both public and private.[41] Likewise, the adequate coordination —both normative and programmatic— between urban planning and housing —including new rehabilitation, regeneration and renovation actions— is still a pending challenge.[42]

DISCLOSURE STATEMENT

No potential conflict of interest was reported by the author.

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ENDNOTES

1. Spanish Constitution, Article 47. It should be stressed that this right to housing is to be understood "as a social right in the strict sense". Therefore, "it is not configured as a subjective right and does not grant [...] its holders an action that can be brought before the courts for the direct acquisition of 'decent and adequate' housing", but rather entrusts the public authorities with carrying out actions that make it feasible, through public services, development actions and administrative police: Pacheco Jiménez, Sales, "El derecho a la vivienda", 358.
2. Act 19/1975 of May 2, on the reform of the Act on the Land and Urban Planning Regime, Preamble. Although the reform of the original text of 1956 was approved in the last months of the dictatorship of Franco, it established the urban framework for the coming democracy. As mechanisms of flexibility, this reform incorporated a new category of land for development and new forms of private initiative. At the same time, the free cession of land for public purposes was reinforced, and the transfer of 10% of the private building rights was incorporated to be used, for example, for the creation of municipal land estates.
3. Fernández Rodríguez, "La reforma legislativa y la administración", 143.
4. Spanish Constitution, articles 148 and 149. The first regional urban planning acts were approved in the 1980s, and the last ones at the beginning of the 21st century, with numerous subsequent reforms. In parallel, since the early 1980s and until today, the central government has approved three reforms of the State Land Act and eleven State housing plans, as it will be detailed in section 2.
5. Main family dwellings are those usually occupied by one family. Apart from this, secondary family dwellings are those only occasionally occupied —there were 1,899,762 in 1981 and 3,681,566 in 2011—, while empty dwellings are also recorded —2,396,205 in 1981 and 3,443,365 in 2011—. Taking secondary and empty dwellings into account, the increase in the total number of dwellings has been numerically equivalent to that of the population: one dwelling per inhabitant.
6. The concept of VPO is linked to some characteristics of the dwelling itself —like usable space, maximum and minimum—, to some limitations in the sale price and to some conditions of access, i.e. incomes thresholds that have been usually referred to the minimum inter-professional salary —for instance, the threshold was set in 2.5 times this minimum salary in 1978, although this limit has changed several times—.
7. Royal Decree-Act 31/1978 of October 31, on public housing policy. It was later developed by the Royal Decree 3148/1978 of November 10. In addition to the abovementioned measures, the Royal Decree-Act 31/1978 included a commitment by the government to submit a draft of an Act on Public Housing Protection, which was never fulfilled.
8. The dominance of home ownership over rental housing had been clearly consolidated during Franco's dictatorship, among other things for ideological reasons related to promoting a middle class made up of small owners.
9. Substituting the *Instituto Nacional de la Vivienda* —INV, National Housing Institute—, which built thousands of homes during Franco's dictatorship, the Instituto para la Promoción Pública de la Vivienda —IPPV, Institute for Public Housing Promotion, created in 1980 and abolished in 1985— took over public housing promotion for a few years until it was finally taken over by the Autonomous Communities. Similarly, the *Sociedad Estatal de Promoción y Equipamiento de Suelo* —SEPES, created in 1981— assumed the task of promoting industrial land that had been previously carried out by the *Instituto Nacional de Urbanización* —INUR, National Urbanisation Institute, created in 1959 as the *Gerencia de Urbanización*—, while the promotion of land for residential uses was also transferred to the Autonomous Communities.
10. Regulated by Royal Decree 2455/1980 of November 7, on the financing and monitoring of the 1981-83 programme for the construction of social housing.

11. Regulated by Royal Decree 3280/1983 of December 14, on the financing of protectable actions in the field of housing. It should be noted that during this period specific aid for rehabilitation began to be included in State plans, in accordance with the actions regulated by Royal Decree 2329/1983 of July 28. Although they did not have reached relevant results in the early years, this line of action has gradually grown in importance up to nowadays.
12. This is set out in Royal Decree 1494/1987 of December 4, on measures to finance protectable actions in the field of housing. It is worth mentioning that the so-called "Special Regime" was created at that time within the VPO, corresponding to public promotions aimed at low-income population —less than two times the inter-professional minimum salary—, although in the five following years barely 13,000 homes were built under this category in Spain, according to the data of the Ministry of Development.
13. According to data from the *Sociedad de Tasación* —Valuation Society—, the average price rose from around 300 euros per square metre in 1985 to over 900 euros per square metre in 1990.
14. The reform was approved by Act 8/1990 of July 25, on Reform of the Urban Development and Land Valuation Regime, and was subsequently transferred to Royal Legislative Decree 1/1992 of June 26, which passed the revised text of the Act on the Land and Urban Development Regime.
15. Menéndez Rexach, Ángel. "Constitución y democracia."
16. The reform allowed the expropriation of developable land for the construction of VPO that were part of a public action programme, but only if the corresponding partial plan had not yet been approved.
17. Regulated by Royal Decree 1932/1991 of December 20, on measures to finance protectable actions in the field of housing under the 1992-1995 Plan.
18. Special attention was given to the purchase of the first home, encouraging previous savings through tax incentives for the so-called "home savings accounts". Likewise, the conditions of mortgage financing for primary residences were improved.
19. Shortly before, Act 18/1991 of June 6, on Personal Income Tax, created a new tax support figure for those living in rented accommodation, and shortly afterwards the regulation of renting was reformed through Act 29/1994 of November 24, on urban rentals, with the aim of boosting this market.
20. The measures of Royal Decree 2190/1995 of December 28, on measures to finance protectable actions in the field of housing and land for the period 1996-1999, included the improvement of the system of aid for the development of building land and the creation of public estates of building land for the medium and long term —always with preferential use for VPO—, as well as the possibility of financing VPO developed by the Autonomous Communities, preferably for renting and low-income households, although again with limited results.
21. Parejo Alfonso, "Comentario de urgencia", 572.
22. Act 6/1998 of April 13, on land regime and valuations.
23. This includes the valuation regime —linked to expropriation— and the liability regime: Baño León, "La nueva Ley del Suelo", 154-155.
24. Berges, Ontiveros, "La nueva Ley de Suelo desde la perspectiva económica", 260.
25. It grew from an annual production of just over 200,000 homes in 1995 to 650,000 in 2007, while the average price grew from 1,000 euros per square metre to a peak of 2,900 euros per square metre over the same period, according to data from the Sociedad de Tasación —Valuation Society—.
26. Royal Decree 1186/1998 of June 12, on measures to finance protected actions in the field of housing and land under the 1998-2001 Plan.
27. The high cost of housing for young people —compared to their average salary— has been linked to the late age of their emancipation from their parents —about 30 years on average—.
28. Royal Decree 1/2002 of January 11, on measures to finance protected actions in the field of housing and land under the 2002-2005 Plan.
29. Royal Decree 801/2005 of July 1st, approving the 2005-2008 State Plan to promote citizens' access to housing. The main measures proposed by this plan were to increase the production of protected housing, mobilise the stock of unoccupied housing for rent and promote renovation actions.
30. The population of the city of Valladolid has decreased in this period, going from 320,293 inhabitants in 1981 to 311,682 inhabitants in 2011, but if another 22 municipalities in its surroundings are considered, the urban area as a whole has gone from 341,770 inhabitants in 1981 —almost 94% corresponding then to the municipality of Valladolid— to 413,963 inhabitants in 2011 —a quarter living in the municipalities around the city—, which represents a growth of 72,193 inhabitants —20% more—.
31. According to the General Directorate of Cadastre, the number of homes built in the city in this same period amounted to 54,914, so the licensing data represent very well the actual real estate production in the city.
32. In the 1980s, almost a quarter of the city's population over the age of 10 moved without leaving the city —73,777 people—. Between the end of the 20th century and the beginning of the 21st, an average of over

1,100 people per year moved from the surrounding municipalities to the city, while an annual average of almost 3,500 made the opposite move, i.e. from the city to one of the municipalities in the urban area.

33. However, this important municipal project did not prevent the clear decrease in the promotion of VPO with respect to the previous decade, since between 1990 and 1997 the promotion of VPO in the city did not exceed, on average, 20% of the total. On the other hand, the insufficiency of public housing continued to be evident: the 346 homes offered by the regional government in this period were attended by more than 4,000 families, and the right was recognized to more than 2,000, so not even 20% of the recognized needs were covered.

34. Fernández Maroto, "Modelo urbano y ciudad construida", 308-315.

35. For example, in another new neighbourhood that was publicly promoted —Villa del Prado—, VIVA sold again all the land it had for the promotion of VPO under the "General Regime", which compared to the above mentioned "Special Regime" allowed for higher income thresholds.

36. From 2004 to 2011, 365 public housing units were promoted in the city, of which 148 —40%— were for rent, although in many cases under the rent-to-own format, not as a public estate.

37. Álvarez Mora, Castrillo, de las Rivas, Santos, "Perfiles de una tragedia."

38. Currently, only 20% of the Spanish population lives on rent. The clear predominance of home ownership in Spain —which contrasts with its European environment— responds to a complex mix of cultural, employment and economic factors, both long term and conjunctural. The fact that the payment of a mortgage loan has usually been more affordable than the payment of a rent —apart from tax deductions—, combined with the traditional geographical stability of Spanish workers, has resulted in a cultural mentality that has been reflected, as we have seen, in public policies themselves.

39. For example, City Councils have tended to dispose of the transfers of building rights established by urban planning legislation and the land they own as their own financing mechanism, instead of allocating them to the creation of municipal land and housing estates. However, some municipalities —such as Barcelona— or Autonomous Communities —such as País Vasco, benefiting from more financing availability— did perform a wide housing policy in this period.

40. According to data provided by the Spanish Judiciary, there were 286,130 evictions linked to mortgages between 2006 and 2012, although not all of them correspond to family houses and not all of them were eventually executed.

41. For example, the Autonomous Community of Castilla y León —where Valladolid is located— approved the Act 9/2010 of August 30, on the Right to Housing of the Community of Castilla y León. Recently, a report pointed out the need to guarantee its fulfilment, increasing the resources destined to housing and promoting rehabilitation and rent: De las Rivas Sanz, Castrillo Romón, Rodrigo González, Fernández Maroto, Martínez Sierra, *Estrategias para el impulso de un nuevo modelo de política de vivienda en Castilla y León*.

42. Castilla y León is also an example in this respect, as it has integrated these new actions into its Urban Planning Act —the first text was approved in 1999— and has a strategy for its deployment —Strategy for Urban Regeneration in Castilla y León, 2016—. Furthermore, the competences in urban planning and housing are currently integrated in the same Regional Ministry and under the control of the same General Directorate —of Housing, Architecture and Urban Planning—: Pérez-Eguíluz, Fernández-Maroto, Rodrigo González, "Un análisis de las condiciones para la regeneración urbana integrada", 75.

IMAGE SOURCES

Fig. 1: Own elaboration. Data source: Ministry of Development.
Fig. 2: Own elaboration. Data source: Bank of Spain.
Fig. 3: Own elaboration. Data source: City Council of Valladolid.

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6 JULY: SESSION 2.3

URBAN TRANSFORMATIONS.

Chair: Hou Li

Spatial transformation by changing industrial structure of tradeing port city by Kitamae ship
Case Study on Hokuriku Region in Modern Japan

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Abstract

Cities have developed urban space as a container to accept industry, and the transformation of modern industrial structure has transformed the city space so far. These histories can be interpreted as the unique spatial context of each city at the present day. Beyond these contextual readings, it may be thought that there is a new planning perspective. This study clarifies the transition and its characteristics of the spatial structure of trading port cities where the industrial structure has changed drastically due to the modernization of Japan and the shipping system has changed. The research target is trading port cities in the Hokuriku region, among the calling ports of Japan's Kitamae ship that flourished until the beginning of modern times. These port cities flourished as commercial ports connecting various parts of Japan under the control of the Tokugawa Shogunate in the early modern period. At that time, Japan, which had adopted a national isolation policy, had its domestic ports functioning for domestic trading except for a limited port called Nagasaki. Entering modern times, the Kitamae ship changed from a sailing ship to a steamer, and developed smoothly as the ship became larger and faster. However, in the 1910s, the transportation system changed to railroads and the transportation industry structure was changed. As a result, the trading port, which was a transit port on the coast of the Sea of Japan, lost its role and continued to decline. In order to change the industrial structure, the ports of Kitamae ship in Niigata, Toyama, Ishikawa, and Fukui prefectures that were targeted this research were converted to different industrial structures. In general, it became clear that one case (Mikuni, Shioya, etc.) was where the port facility was switched from commercial use to fishery use, and the other one (Shukunegi, Segoe etc.) where the port function was reduced and the agricultural village was settled. In each of these cases, the national policy has implemented a plan for the development of social capital in the section of the fishery and agriculture sectors, resulting in variations in space formation. When urban space was remodeled due to industrial transformation, it was classified several types by the continuity of architecture and the type of open space when focusing on spatial density as an index.

Furthermore, when focusing on individual situations, it became clear that there was a difference in the balance between production and consumption depending on the original terrain and the city size, which had an effect on the subsequent space formation. The city (Shukunegi) where the unloading port and sailors' villages were separated had a great influence on the subsequent diversion of space because the sailors' villages did not have production space for unloading operations. In another case (Mikuni), it has become clear that the decline was slowed by the continuation of urban industry in the tertiary industry because the development of the maritime trade era was remarkable and it grew to a certain city scale.

Keywords

Tradeing Port, Changing Industrial Structure, Contextualism

How to cite

Nakajima, Naoto, "Spatial transformation by changing industrial structure of tradeing port city by Kitamae ship: Case Study on Hokuriku Region in Modern Japan". In Carola Hein (ed.), *International Planning History Society Proceedings*, 19th IPHS Conference, City-Space-Transformation, TU Delft, 5 - 6 July, 2022, TU Delft Open, 2022.

Transformation from Commercial Port to Industrial City

Discussion on Industrial Land-use Planning and Industrial Building Construction in Shanghai (1945-1960)

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Abstract

With the change of regime in 1949, Shanghai gradually transformed from a comprehensive commercial port city to an industrial city. If the study departs from three concrete aspects: the industrial land-use planning in Shanghai, the development of industrial districts, and the design and construction of industrial buildings around 1949, it can effectively reveal the urban transformation of Shanghai during this period. This article first sorts out the planning conception of industrial land in the Greater Shanghai Plan and compares it with the three urban plans in the 1950s to explore the changes in the industrial lands in Shanghai at the planning level. Secondly, based on the archival materials on the industrial development during the 1950s, the article tries to present the conditions of the development of the industrial districts under the planning guidance of this period. Thirdly, through fieldwork and the review of archival drawings, based on the general layouts, structures and forms of industrial architecture, it reveals the changes in the design and construction of industrial architecture through the shifting mode from spontaneous development to planned development. The article finally points out that the establishment of socialist political and economic system and the positioning of Shanghai by the national industrialization strategy have completely changed the urban development in Shanghai, which in turn led to the spatial reformation of the industrial location in Shanghai during the transition from light industry to heavy industry in 1953-1957. It also contributes to the large-scale expansion of industrial land and development of suburban industrial areas and industrial satellite towns after 1958 and prompts the transformation of Shanghai into an industrial city. The urban spatial structure of Shanghai also changed from a mono-center structure with the original concession as the core to a poly-center structure with the industrial centers as the core. The adoption of the Soviet standards and norms in industrial buildings, the clear zoning of general layout, and a large number of large-scale, large-span factories have contributed to the important image of the development of heavy industry in Shanghai during this period.

Keywords

Urban Transformation of Shanghai, Industrial Land-use Planning, Construction of Industrial Building, Industrial Building Design and Construction, Commercial Port, Industrial City, the Great Shanghai Plan, Large-scale Factory with Superlarge-span

How to cite

Li, Lingzhou; Peng, Nu; Zhang, Junjie, "Transformation from Commercial Port to Industrial City: Discussion on Industrial Land-use Planning and Industrial Building Construction in Shanghai (1945-1960)". In Carola Hein (ed.), *International Planning History Society Proceedings*, 19th IPHS Conference, City-Space-Transformation, TU Delft, 5 - 6 July, 2022, TU Delft Open, 2022.

Developing a Landscape-led Planning Framework for Post-mining Ecological Restoration of China

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Abstract

China is the third largest country in the world in mineral resources, with more than 100,000 mined mineral resources, supporting major pillar industries for the national economy, but also bringing unprecedented severe ecological and environmental problems to the local areas. Although the mine ecological restoration is developing vigorously in the recent years, the bottleneck problem of the current theoretical and practical circles is the lack of well-structured planning and implementation strategy hierarchy between the policy aims and the project implementations in situ. As such, most state funds have been directly injected into detailed technical works, leading to a severe waste from restored vegetation failures to the sites abandoned again. This paper draws from a range of international best practice examples of the use of landscape-led mine site restoration in the context of re-connecting human and nature together. Discussing the methodologies of developing a landscape-led planning framework to improve the resilience of mine ecological restoration in the reality of natural, economic and social disturbances as well as to provide practical and effective theoretical support for landscape planning and governance. A prototype of the landscape-led planning framework for the post-mining sites ecological restoration with the goal to breakthrough the bottleneck problem in China is presented. Future research is required to determine detailed local landscape strategy for communicating particular complex scientific data and also to better understand how the landscape-led planning can be applied to gain multi-benefits for the post-mining ecological restoration planning process.

Keywords

post-mining sites, ecological restoration, landscape-led planning

How to cite

Li, Sha; Yang, Xin; Kuang, Wei; "Developing a Landscape-led Planning Framework for Post-mining Ecological Restoration of China". In Carola Hein (ed.), *International Planning History Society Proceedings*, 19th IPHS Conference, City-Space-Transformation, TU Delft, 5 - 6 July, 2022, TU Delft Open, 2022.

Changing Historic Parks in Changing Historic Cities

Two case-studies in the U.S. national park system

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Abstract

The urban historic preservation system in the U.S. is significantly associated with its park system, distinguished from other countries and regions. Firstly, urban historic resources of national significance are dominantly protected and managed by the National Park Service (NPS) as park units of various categories and forms in or beyond the U.S. national park system. Secondly, the urban historic environments are not only being protected but also being interpreted to and enjoyed by the public as major components of historical parks. Thus, planning and establishing urban historical parks for public education and enjoyment, demonstrates a unique approach for urban historic preservation and renovation in the United States. Urban space is transforming always. The specific urban historical environments of certain times are selected and protected as historical parks, due to their specific meaning in history and to people. As time runs, these urban historical parks also transform to adapt with the emerging urban challenges and the changing community demands. Both the federal NPS and the local cities play crucial roles in this process. In this paper, two cases in St. Louis and Boston will be examined to explore the changing urban historical parks in the changing historical cities. St. Louis once played an important role in the history of American Westward expansion. A national memorial project with the famous Gateway Arch was established just beside Mississippi River in the 1960s, to commemorate the city's role in American history and to renewal the obsoleted warehouse district at the same time. Nearly 50 years later, a renovation and expansion project to the existing national park was developed, to build a better connection between the park and the city and to deliver broad public open spaces for the people. Boston witnessed another significant period in American history related to the nation's independence with various historical sites. In the 1950s, many of these historic sites were linked together through a planned path, named Freedom Trail, to collectively illustrate the city's history. 20 years later, a national historical park was planned and established to protect more historic resources and tell the story in a more holistic way. The park now is still exploring a better way to co-exist with the city. Although with different scales and spatial forms, both cases illustrate the transforming of urban historic parks in a dynamic urban environment and changing community demands. They also reveal the dynamic balancing between the national interest and local demands in the historic preservation process. The planning strategy of urban historical parks as an approach of historic preservation will be concluded at the end of the paper, as well

as their inspirations to historic cities in China and other countries.

Keywords

historic city, historical park, heritage conservation, national park, public space

How to cite

Sun, Shimeng; "Changing Historic Parks in Changing Historic Cities: two case-studies in the U.S. national park system". In Carola Hein (ed.), *International Planning History Society Proceedings*, 19th IPHS Conference, City-Space-Transformation, TU Delft, 5 - 6 July, 2022, TU Delft Open, 2022.

6 JULY: SESSION 2.4

PETROLEUMSCAPE.

Chair: Dirk Schubert

Fire in Port City
The Destruction and Revival of Canton City in 19th Century

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Abstract

Canton, contemporary Guangzhou, has long flourished as a port city with a diverse group of citizens from multiple backgrounds. Canton was on the frontier of interactions between China and the West through trade, technology and Opium Wars. As the city expanded in the 19th century due to crowded streets, wooden building materials and more open fire uses, the risk of conflagrations increased. Between 1821 and 1911, the city saw 231 fires in records. After a conflagration, the reconstruction of the city provides an excellent perspective to observe the resilience of urban space, understood here as the result of interactions among different stakeholders. This paper explores the resilience of Canton city after conflagrations in 19th century, to figure out how authorities, communities, merchants and foreigners addressed fires and rebuilding through laws, regulations, technologies and cooperation, and how the response to fire destruction shaped urban space. The government made laws and established firefighting teams, and encouraged the communities to broaden streets. But the government dominant changes of urban space were slowly because of the special organization of communities. The communities were organized in "Kaifong", with the tradition of self-governing in grass-roots that gentries managed the affairs in villages and streets. They preferred to rebuild the streets as before the fires, but made regulations and facilities such as watchtowers, passageways and cisterns on roofs to prevent fire in blocks, contributed to the new landscape of Canton. Hong merchants and foreigners whose houses called Thirteen Factories were situated at the bank of Pearl river, asking for setting up a fire-zone to isolate from the adjacent streets, conflicted with the communities in adjacent streets who preferred to rebuild their houses as before. But the foreigners rebuild Thirteen Factories with new planning after each fire, which directly contributed to the planning of Shameen ghetto, the concession of the United Kingdom and French after 1861 when Thirteen Factories reduced to ashes. In a conclusion, the appeals of different stakeholders and their behaviors affected the reconstruction of buildings and streets, making changes in urban space and urban scape. For instance, the government made law to widen the rebuilding streets, the communities built watchtowers, and the foreigners made new planning of Thirteen Factories, etc. Also, the conflicts among the stakeholders obstructed the urban transformation and maintained the stability of urban structure. For instance, the communities kept "Kaifong" space against widening streets and fought against the proposal of fire-zone around Thirteen Factories. The case of Canton shows the transformation and stability of city space after conflagration in the complex circumstance of culture, society and policy

in 19th century.

Keywords

Canton, Conflagration, Port city, Urban Scape, Space Transformation

How to cite

Gu, Xueping; Hein, Carola; "Fire in Port City: The Destruction and Revival of Canton City in 19th Century". In Carola Hein (ed.), *International Planning History Society Proceedings*, 19th IPHS Conference, City-Space-Transformation, TU Delft, 5 - 6 July, 2022, TU Delft Open, 2022.

Between Tradition and Modernity
Western urban planning and street improvement projects in Hankou (1889-1937)

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Abstract

This article examines street improvement projects in Hankou's case for unearthing the contribution of Chinese political elites and planers in exchanging planning concepts and technologies from the West to China. Aiming to realize the Modern Metropolis, which Sun Yat-sen proposed in the fundamentals of national reconstruction, Chinese political elites and planers selected, borrowed, and imported western planning ideas to transform traditional Hankou city by implementing street improvement projects. Using the case of street improvement of Hankou during the Late Qing period(1889-1911), Early Republic China period(1911-1926), and Municipal Government period(1926-1937) as case studies, this article examines street improvement projects which authorities developed for Hankou in three different periods. By analyzing planning concepts, street plans(both realized and planned), and management regulations of these projects, the paper argues that improvement projects aimed to develop economic and industrial and improve public hygiene. Furthermore, the Chinese political and planning elites imported European and American design principles and practiced them in the Hankou local context for their own needs. In conclusion, the built environment showed hybridization features after implementing continuous planning schemes.

Keywords

Hankou, urban transformation, planning history, street improvement, modernity

How to cite

Ren, Xiaogeng; Li, Baihao; Hein, Carola; "Between Tradition and Modernity: Western urban planning and street improvement projects in Hankou (1889-1937)". In Carola Hein (ed.), *International Planning History Society Proceedings*, 19th IPHS Conference, City-Space-Transformation, TU Delft, 5 - 6 July, 2022, TU Delft Open, 2022.

DOI: 10.7480/iphs.2022.1.6473

INTRODUCTION

Hankou is part of the tri-city complex of Wuhan, an inland port city and economic centre in the middle reaches of the Yangtze River in modern times. With the down-to-earth industrial centre of Hanyang's bombastic political posturing of Wuchang, it forms Wuhan city nowadays. As William T. Rowe has noted, Hankou was the largest commercial centre and highest urbanization level in modern China. Hence, its commercial status and influence in China were equivalent to Chicago in the United States[1]. Hankow has held the commercial centre for its excellent geographical location and commercial conditions since the 18th century. In 1858, Hankou opened as a treaty port, and it has been involved in the international commercial market. Western concessions were built next to the local Chinese community along the Yangzi River, followed by British, German, French, and Japan. Hankou's modernization started from Westernization Movement launched by Zhang Zhidong in 1889[2], which in this paper has been defined to the starting point of transformation of urban space.

This article examines street improvement projects in Hankou's case for unearthing the contribution of Chinese political elites and planers in exchanging planning concepts and technologies from the West to China. Despite the different cultural and social contexts, Chinese planners actively participated in the "planning diffusion" or "transnational urbanism" that Stephan Ward and Carola Hein termed[3]. In the late 19th century and early 20th century, Chinese reformers and planning experts introduced the modern planning concept and technology to Chinese cities, beyond the case of Hankou in the context of striving for a modern nation-state country[4]. Aiming to realize modernising Chinese cities proposed by Sun Yat-sen in the fundamentals of national reconstruction, they regarded modern planning as a valuable tool for creating a modern and landscaped urban vision, reducing traffic jams, improving public hygiene, and promoting citizen participation morality. In this way, street improvement, which was the central role in western planning concepts and technology, prioritized being applied and practiced within the city, transforming the traditional Hankou into a modern industrial and commercial metropolis[5].

In China, the term in the newspapers and periodicals books that resembled the concept of urban planning was Urban improvement (市区改正) in 1911, which came from the Japan[6]. At the end of the 19th century, roadism(马路主义) termed by Baihao Li[7], was an improvement movement in the late 19th century and the early 20th century which mainly focused on improving and broadening old roads within the cities. However, the Chinese reformer has long been familiar with the modern planning model of Western countries, such as Haussmann's renovation of Paris; probably, they only interpreted and imitated the municipal model of concession as the means to reform traditional cities at first[8]. Somehow, parallel to other treaty cities like Shanghai, Tianjin, etc., street improvement was the first step in the modernization of Hankou city and the most essential planning issue even during the Beijing Government and Kuomintang(KMT) Government.

The article highlights, first, traditional urban form, street construction, and streetscape before 1889 and provides an overview of traditional Hankou's urban transformation, the con-

struction of western concession. Second, this article uses the case of street improvement of Hankou during the Late Qing period(1889-1911), Early Republic China period(1911-1926), Municipal Government period(1926-1937) as case studies. By analysing planning concepts, street plans(both realized and planned), and management regulations of these projects, the paper argues that improvement projects aimed to develop economic and industrial and improve public hygiene.

TRADITIONAL URBAN FORM AND STREETSCAPE IN HANKOU BEFORE 1889

Hankou's urban form and streetscape differed from traditional political cities regarding their geography and excellent transportation conditions. The founding of Hankou can be traced back to Ming Dynasty and is related to the geographical event of the diversion of the Han River, which happened from 1465 to 1470[9]. In the early 1600s, Hankou had developed into a commercial river port and commercial town in Central China with the reputation of "The Four Famous Towns" [10] and "Four Gatherings in China" [11], serving as the center of the Qinghai, Yunnan, Sichuan, and Hunan provinces in the upper reaches of the Yangtze River and the downstream provinces of Hubei, Jiangxi, and Anhui. Its boundary was strictly confined to a narrow space of its geography factor. After the construction of Yuangong Dyke by Yuanchang in 1636, Hankou had been kept its spatial boundary even in the 19th century. Even after the City wall of Hankou was built in 1864, its spatial cope did not change that much. As the map shows(figure 1), Hankou was a commercial town and many wharves along the Hankou River; outside of Hankou was low-lying land called the Hou Lake.

Unlike Wuchang and Hanyang, political cities, Hankou's spatial structure was inseparable from its commercial characteristics and geographical conditions, developing along the river and entirely relying on water transportation and commodity circulation. In the Chinese context, the street can also be considered as a collection of names called "街" (jie), "道(dao)", "路(lu)", "马路(malu)", "大道(dadao)". In the 19th century, Hankou mainly consisted of four main streets, which were called the River Street(Hejie), the main street(Zhengjie), the middle street (Zhongjie) and the back street(Houjie), and the rest of the 40 small streets and lanes connected with main streets and extended to river wharves for transporting goods. Due to the extreme prosperity of commerce and limited space, the land value of Hankou can be described as "one inch of land and one inch of gold" [12]. Its land use was highly intensive, row by row, criss-crossing[13]. Its street and lane grew freely, densified and extended along the Han River. Its buildings mainly were narrow frontage, deep two-story houses for the function of residential commercial.(figure 2).

As William T. Rowe argued, Hankou was considered the city with the highest degree of "urbanization" in the late Qing Dynasty of the Chinese Empire. In Hankou, there were four community units in Hankou along the rive., including Juren, Youyi, Xunli, and Dazhi[14]. As the Baojia system's basic unit, they played an essential role in managing the population, supervising

the neighborhoods, and dealing with public welfare-related fire control, social relief, public transportation, and public facilities by cooperating with the non-governmental association. [15] In 1818, the population in Hankou was around 129182 households which were recorded under the Baojia System. However, the data was much lower than the actual population living there for the mobility of people[16]. However, in such a limited space, Hankou gathered the population of business organizations and groups from different parts of Hubei and neighboring provinces before 1861.

Isabella Bird Bishop who was a British women photographers, recorded the real street scene of Hankou in her book[17]:

> *"Of the crowded and semi-impassable state of such streets no adequate idea can be given. Though on my first visit to the native city the British Consul was walking beside me with an attendant, and my bearers wore the red plumed hats and well-known liveries of the Consulate, I was often brought to a halt, more or less ignominious, or was roughly shaken by the impact of the burden of some hurrying coolie, while the chairmen threaded their way with difficulty through thousands of busy, blue-clad Chinese, all shouting or yelling, my bearers adding to the din by the yelling in chorus which is supposed to clear a passage for a chair..... The streets of Hankow, like those of most of the large trading cities, present a perpetual series of dramas. In them hundreds of people eat, sleep, bargain, gamble, cook, spin, and quarrel, while they are the sculleries, sinks, and sewers of a not inconsiderable portion of the population....."*

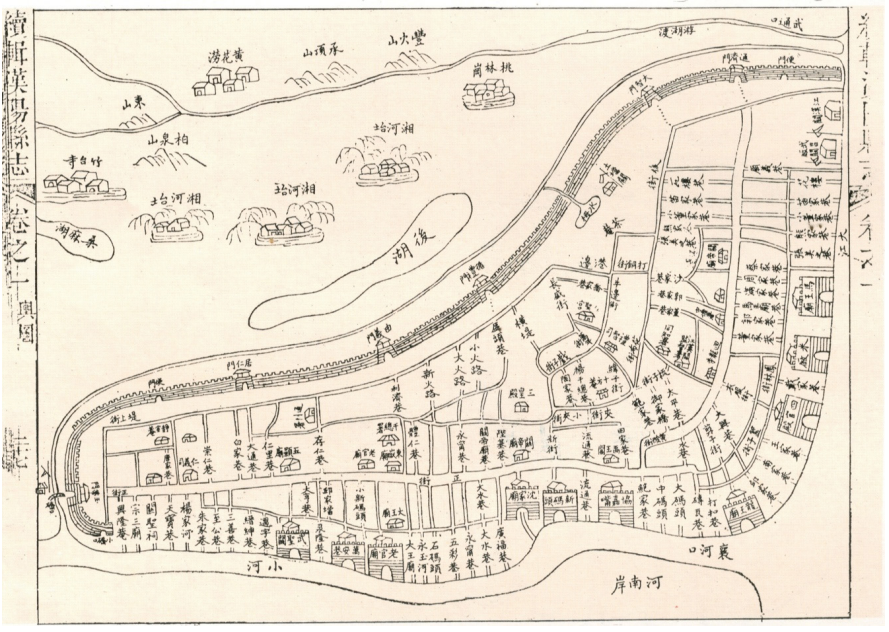

Fig. 1. Map of Hankou in 1864. Source: Compilation Committee of Wuhan Historical Atlas. Historical Atlas of Wuhan. Beijing: China Map Press, 1998:18.

Fig. 2. Streetscape of Hankou. Source: Bird, Isabella Lucy. “The Yangtze valley and beyond”, 64.

Therefore, it is not hard to imagine Hankou's narrow and overcrowded streets in the traditional period, which began to change after the open trading port in 1861. Somehow, the promotion of foreign capital and business brought by foreigners made Hankou's geographical location and commercial center more prominent, so being called "Oriental Chicago" and "China's International City"[18]. Britain, Russia, France, Germany, and Japan have successively set up concessions and piers along the Yangtze River and, at the same time, built orderly western-style streets next to the Chinese community(figure 3). In 1864, the British concession had carried out unified overall planning, following the Yangtze River trend, three parallel and six roads perpendicular to the direction of the Yangtze River, and connecting wharf vertically for transportation. The other four concession countries had also continued the road system, building an orderly western street system, opening up wharves along the Yangtze River, setting up warehouses and freight yards, and building public buildings. Compared with the crowded and disordered streets in the Chinese community, Hankou Concession's streets are spacious and beautiful, with sidewalks and street trees on both sides, drainage ditches on both sides, and underground water pipes.

Before opening port in 1858, Hankou's geographical location and commercial position had been maintained in the Central China region. Moreover, it is also why foreigners chose Hankou to be the trading port after the Second Opium War. On the one hand, Westerners would like to rely on Hankou's original business center and then turn it into a source of raw materials for European and American countries; on the other hand, they transported goods to their own countries by water transport and incorporated Hankou into the international business network. As the significant role of streets in the transportation of goods, business development, and public health in modern cities, the authoritarian government has focused on street improvement, intending to modernize Hankou.

FIRST STREET IMPROVEMENT PROJECT IN THE LATE QING PERIOD(1889-1911)

In Hankou, street improvement projects in local Hankou started with the Western Modernization, when Zhang Zhidong launched New deal in Hubei in 1898. Zhang Zhidong's vision for Wuhan region actually was transform traditional cities into commercial and industrial cities through introducing western science and technology, namely the guideline of Chinese Essence and Western Utility proposed in his paper Exhortation to Study (劝学篇) . In 1889, Zhang Zhidong managed the construction of Jing-Han Railway starting from Hankou to Xinyang in Henan province, which was the first railway in Late Qing Empire. In this way, Hankou's commercial status have been consolidated for the reason of railway transportation. In addition, the railway has also led to the expansion of Hankou's urban area and the increase in land prices near the railway, as described in Xiakou County annals (夏口县志).

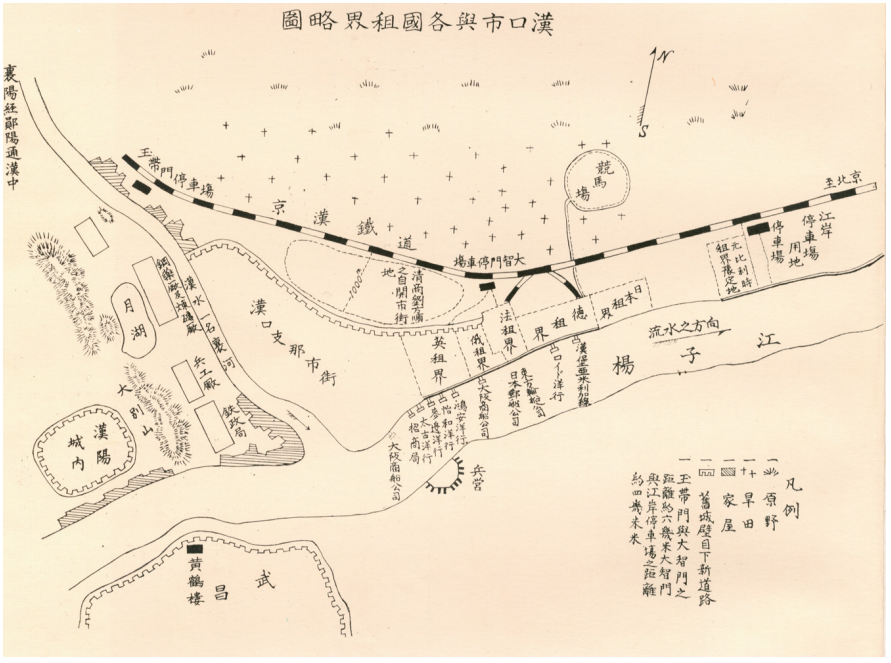

Fig. 3. Map of Hankou community and foreigner concessions in 1908. Source: Compilation Committee of Wuhan Historical Atlas. Historical Atlas of Wuhan. Beijing: China Map Press, 1998:38.

Zhang Zhidong's version was to develop Hankou into a commercial hub of China[19]; however, the old streets, narrow, crowded, dilapidated, and unhealthy, could not meet the requirements of more efficient modern transportation and the need for fire prevention. It was far from the vision of a truly modern metropolis, where streets in the Western play an essential role in public hygiene and circulation and equip with sidewalks and sewer systems.[20] Hence, Chinese political elites approached the needs of the changing cities practically rather than aesthetically at that time. They arranged and constructed modern infrastructure such as railways and roads without changing its original lots a lot; they established institutions specialized in improving and constructing roads, and cooperated with the local merchants to contribute the financial and land. As in the case of Hankou, Zhang Zhidong started street improvement with the public land, namely the city wall of Hankou.

At this time, the large-scale transformation seems quite ideal for Hankou in terms of its private land ownership and possible colossal cost. Hankou's administrative status in 1889 was promoted to Xiakou County to develop commerce; correspondingly, its spatial scope has also increased by about 890 times, with a total area of more than 1000 km2. Soon afterward, the Hubei provincial government proposed demolishing the city wall and constructing the road[21] to sell the land to redeem the land purchased by Belgium in Liujiamiao, north of the Japanese concession intended to use as the concession of Belgium. However, this plan failed to be released because of the resolute opposition of the Hankou gentry and merchants. Sang Bao, the supervisor of Jianghan Customs, suggested to Zhang Zhidong that government could lease the

land on both sides of the city wall to local merchants, and the rent could be used as the cost of road construction. The bricks and stones removed from the wall can be used for constructing Houhu Dyke to save a massive amount of money[22]. In 1905, Sangbao established the Road Engineering Bureau of Hankou with the support of Zhang Zhidong, which was primarily responsible for improving the narrow streets and frequent fires in the old urban area of Hankou. In addition, Zhou Yihan, the alternate magistrate, was appointed to take charge of the demolition of the city wall of Hankou and the construction of the road based on the city wall[23].

Systematic street improvement was proposed for fire protection needs within the old city. In 1906, Zhang Zhidong commanded to widening the old streets system of Hankou and Hanyang and stipulated that newly built houses facing the street must be backed 3 feet from the original line[24]. Thus, Zhang Zhidong probably recognized the importance of street improvement projects, especially in fire protection, hygiene, and business. Meanwhile, the Hankou Chamber of Commerce put forward more magnificent streets system projects between the railway and Houcheng Road, namely, 26 longitudinal roads connecting the Jinghan Railway and Houcheng Road and structuring a grid with the remaining five flat roads(figure 4) [25]. These street planning failed to be implemented; it was evident that the vision and expectations of Hankou by the Qing Government and Local Chambers of Commerce promoted Hankou's commercial status by developing modern transportation systems, including railway, water, and city transportation.

Consequently, although a limited scale in street improvement projects at this stage, Houcheng Road provided the foundation for later Hankou development. Somehow, it has broken through the barrier to the expansion of Hankou's old urban area and has accelerated the process of Hankou's urbanization and commercialization. This urban improvement movement is mainly manifested in the improvement of streets; more importantly, it might initially be a more pragmatic approach. Indeed, most of the urban improvements in modern Chinese cities started with the movement of demolishing city walls; in this way, Western pavement technology can be applied to old cities without substantial sources of funds.

REBUILDING HANKOU AND ITS STREET IMPROVEMENT ATTEMPTS IN WESTERN URBAN PLANNING (1911-1926)

Obvious, achievements brought by Westernization Movement were obviously, but Xinhai Revolution was a turning point for Hankou. The democratic revolution first occurred in Wuchang, but the battlefield was in Hankou. On 31th October, 1911, Feng Guozhang, as the General of the Qing Dynasty, commanded to set fire to destroy the stubborn resistance of the revolutionary armies hidden in Hankou. Finally, it burned nearly 80% area of Hankou City, destroyed 60-70% houses.[26] More importantly, the destroyed area was originally the most prosperous and prosperous place in Hankou(figure 5). As recorded in Decennial Report, the population of Hankou decreased from 590,000 in 1911 to 200,000 in

1912.[27] After the Revolution of 1911, people believed that the bloody conflict would become a powerful driving force for civilization, and continued to struggle to recast China into a new modern-state nation[28]. In the context, reconstruction became urgent and necessary, especially for local merchant and authority government.

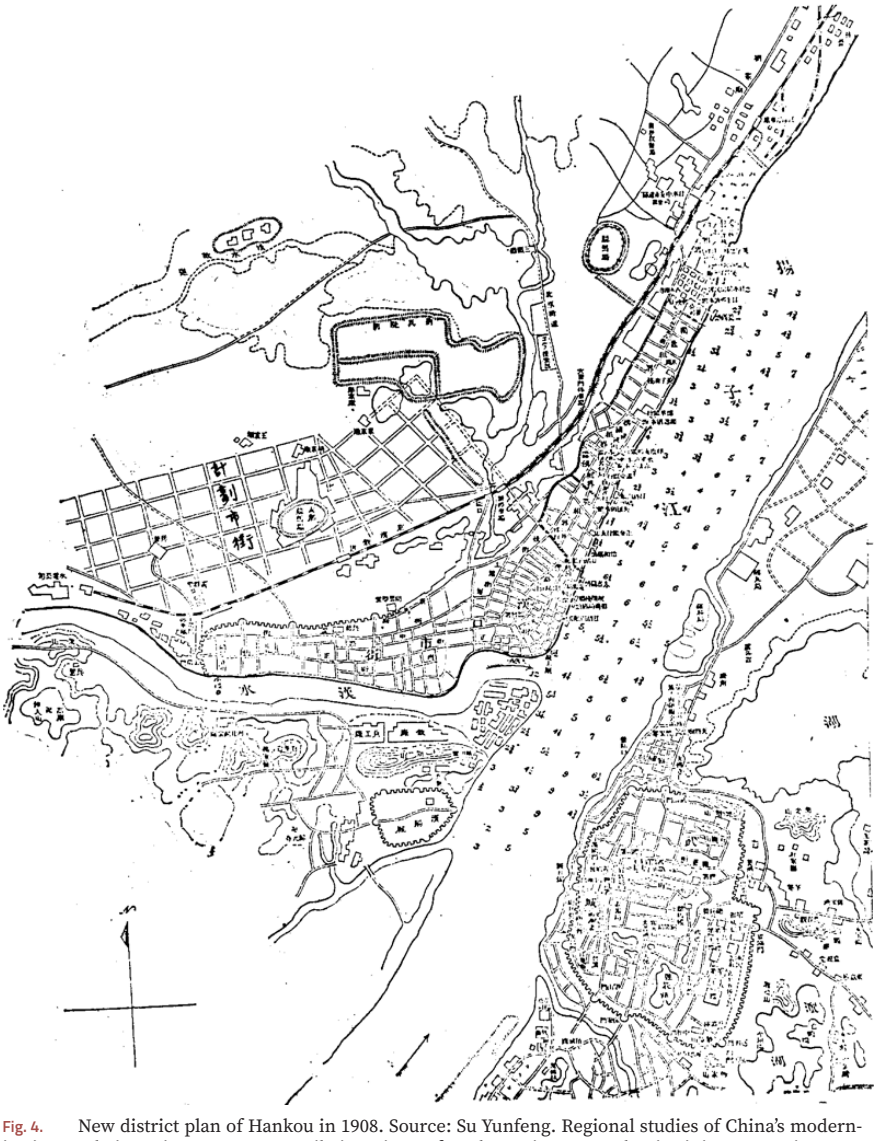

Fig. 4. New district plan of Hankou in 1908. Source: Su Yunfeng. Regional studies of China's modernization: Hubei Province,1860-1916. Taibei:Institute of Modern History, Academia Sinica, 1981: Figure 5.

Fig. 5. Burned area of Hankou in 1911. Source: Dingle, "China's Revolution", illustration.

Since January 1912, political leaders of central government and Hubei Military government, social elites, and local merchants had depicted the version of Hankou, namely, remodeling Hankou into a modern metropolis by importing western planning technologies and concepts. In February 1912, Sun Yat-sen, leader of China's modern democratic revolution, issued two documents to express concern about rebuilding Hankou into a model city. Li Yuanhuong, vice president of the republican of China, believed that the reconstruction of Hankou was "the great cause of opening up the commercial port for the first time in China", and it was necessary to "change the old landscape, pursuit perfect buildings, embody national prestige"[29]. As Robert Dollar observed in his travel diary *Private diary of Robert Dollar on his recent visits to China,* he recorded the tragic city like refugee camps he saw after sailing to Hankou Scenarios, and the new urban ideals that the Chinese aimed to remodel modern Hankou with wide and straight streets[30].

After Revolution, the government took quick action to instruct the rebuilding of Hankou. Their planning ideal for Hankou was to produce a modern space; in this way, they looked to the west for the planning model. Inspired by the model of Concession, the Hankow General Chamber of Commerce firstly proposed a planning scheme in January 1912, which emphasized the construction of wide public roads, three-story brick houses, and other fire prevention for commercial development[31]. As they were involved with substantial commercial interests, local merchants were not allowed to preside over the reconstruction work. Thus, Hubei Government set up a planning agency and convened professional architects and surveyors with the support of Sun Yat-sen and Li Yuanhong. One British architect Tilly Percy, was invited as a consultant to make a new plan for Hankou[32]. The plan he made in 1912 was a completely

new grid street plan with 30.5 meters(100 feet) and 15.2 meters(50 feet) wider roads, paved with sidewalks and drainage (figure 6). As the government expected, the layout was designed following the modern criterion of city planning, but it was unfruitful for the reason of strong objection from local merchants[33]. In this context, the Hubei government decided to reduce the scale of construction and invited Rong Jintong from Yale University in the United States as the chief engineer to formulate a new master plan(figure 7) [34]. Inspired by the grid planning model of London and Boston, he considered several planning points for the modernizing city:1)improve old roads as straight streets and widen 11.7 meters (35 feet) wide streets from the original 4.6 meters (15 feet);2)construct a market along the river and build a railway as well to connect 18.2 meters(60英尺) avenue along the embankment;3)lay trams on 24.4-meter-wide (80 foot) radioactive roads and plan two railway stations according to the standard of New York[35].The planner imported modern planning into the Chinese context and expressed new functional priorities of land use, infrastructure, and efficient circulation.

Hubei government leaders and planners produced a series of improvement plans to rebuild Hankou in 1912. However, the final achievement was only constructing roads instead of house construction[36]. In November 1912, Li Yuanhong disbanded the planning agency and decided to only carry out street improvement projects in the face of the actual situation. [37] They could learn from the West that modern cities should be equipped with efficient transportation and infrastructure to improve their commercial function, including railway, street, river, and sewing systems. More importantly, it is unrealistic to reconstruct Hankou in full accordance with Western grid planning.

Therefore, in the following years, the planner still did planning projects and improved Hankou in two aspects improving the old center and developing the new district on a regional scale. In 1914, Yang Du, supervisor of the reconstruction commissioned by the Beijing government, hired British engineer Greywood to make a plan for Hankou to remake Hankou both its commercial center and industrial center[38]. Hankou's improvement version was to improve old streets within the city, plan a model market, and construct a railway to connect with Hanyang and Wuchang. Unfortunately, the residents rebuilt Hankou without the guidance of modern planning; even the government made so many Visionary plans. It is noteworthy that private real estate had made tremendous development without government control over land development.

Consequently, what allowed these planning projects to be realized was that planners could only choose the most efficient and easiest way to remake the city at that time. This might explain why the modernization of Chinese cities in early-stage has displayed the phenomenon of "Roadism" even planners imported western planning technology and concepts into the Chinese context. Road projects are easier to handle at the practical level, as Wang Zhengting argued in 1922[39]. Moreover, these projects probably provide lessons for the following period: choosing a planning model of efficient and practical that could implement according to the actual situation.

Fig. 6. Street plan of rebuiding Hankou in 1912. Source: "Street plan of rebuiding Hankou in 1912" Real Business Magazine(□□□□□),vol.1,(1912):18.

ADAPTING LOCAL CONDITIONS: IMPROVEMENT AND MODERNIZATION OF STREET LANDSCAPE AND URBAN FORM (1926-1937)

Despite the imperfection of rebuilding Hankou, Hankou city planners and political leaders kept dedicated to the aim of remaking Hankou into a modern metropolis. At that time, the Kuomintang government in 1926 established its political status, but their aspiration for Hankou reminded the same Hankou as the commercial center of China. To create a modern model urban with new social, psychological, political, and spatial order, well foreign-trained political elites and architects worked to realize this ideal. Indeed, as noted by Jeffrey Cody and other scholars, the development of Shizheng(municipal administration) in Chinese cities was deeply influenced by the idea of urban planning and municipal progress in America, which highlighted the significance of zoning, municipal annexation, improvement to housing and infrastructure, and better design of public spaces [40]. In the case of Hankou, planning experience of municipal improvement in American cities was introduced to Hankou by Chinese planners, which emphasized efficient transportation, public hygiene, and fire prevention.

In 1928, Tung Hsiu-chia, as the director of the Public Works Bureau, proposed a more comprehensive improvement project to improve the function of commerce and meet the need for transportation[41]. As he majored in municipal administration and economics at the University of Michigan and the University of California, he advocated the importance of aesthetics and practicality in the level of street improvement. They were widening the old streets on the base of the original street structure within the old urban area, adopting a rectangular street system in the newly-developed area with 45, 40, 30, 20, and 15 meters-wide roads[42]. Wu Guobing, a planning technician who worked for Public Works Bureau, prioritized riverside roads im-

provement to enhance Hankou's transportation system; in this way, the riverside road became the first modern street improvement with the function of leisure and transportation and aesthetics[43].The planned Yanjiang Road is 45 meters wide parkway, including 24 wide carriages for cars and horses in the central, 7 meters near the river for garden grass and two rows of trees, 7 meters of sidewalks on each side and other "Herringbone" groove[44]. Finally, Yanjiang road, in reality, was designed and constructed as a 40m wide boulevard from Jianghanguan to Minsheng Road after the demolition of houses and land acquisition (figure 8)[45]. In order to implement street improvement projects and unify an orderly streetscape, the government promulgated building regulations and land acquisition rules to provide an institutional guarantee[46]. More old streets within the old center, such as Minsheng Road, Minquan Road, and Sanmin Road, were paved and widened without changing the original structure.

Fig. 7. Complete Map of Hankou, Attached Map of New City Street Design of Hankow in 1912. Source:https://www.geographicus.com/P/AntiqueMap/Hankow-toppan-1912

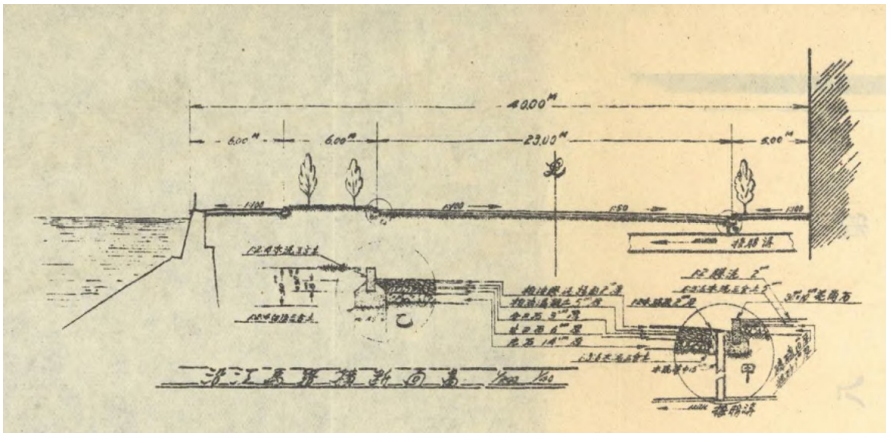

Fig. 8. Cross section map of Yanjiang road. Source: "The second part, public works: Chapter 12, house demolition (with chart)" in Introduction of Hankou municipal development, No. 1(1930): figure 7.

Moreover, a more comprehensive street improvement in 1930 was designed by Liu Kexin(刘克信). His street improvement plan was to improve the old streets system by implementing the plan in stages and classifying the street level, including two main roads(30-40m), eight secondary roads(21-30m), and an inner street(10-20m)(figure 9) [47]. These street improvements strongly henced the connection and mobility between downtown and port, beautified the city-scape, and shaped the modern urban image. What is more, new comprehensive planning for Hankou was approved in 1936 by the Ministry of the interior of the National Government. Gao Lingmei(高龄美), the Head of the design section of the Public Works Bureau, majored in civil engineering at Kyoto Imperial University and made this plan in early 1931. His planning ideal was to plan system parkways to connect parks and administrative centers on a citywide scale due to the inspiration of Paris's Boulevard and the New Urbanism of American cities. In his planning proposal, he clearly stated that the street design of Hankou within the old urban area combined the style of chessboard street of New York and diagonal street of Washington, and streets in the new urban area with new planning standards(figure10) [48].

As Hankow became the commercial center, planners had considered the need for a symbolic space at the regional level. This new version was to create railway stations and bridges to link Hankou with Wuchang and Hanyang together, which was proposed in Gao Lingmei's planning in 1931. Moreover, he planned a more magnificent station in Hankou and considered making a more specific plan with a new district behind Railway[49]. However, these planning ideals didn't come true due to the Japanese occupation after 1938. Somehow, Hankou was a product of an urban improvement project and created an orderly streetscape through s series of the improvement project. With the common goal of creating Hankou into a modern metropolis, Chinese planners attempted many different ways to improve the city. They were more focused on transportation and infrastructure. They believed sincerely that improved modern streets and efficient mobility could promote the prosperity of business and the most efficient way to be modernized.

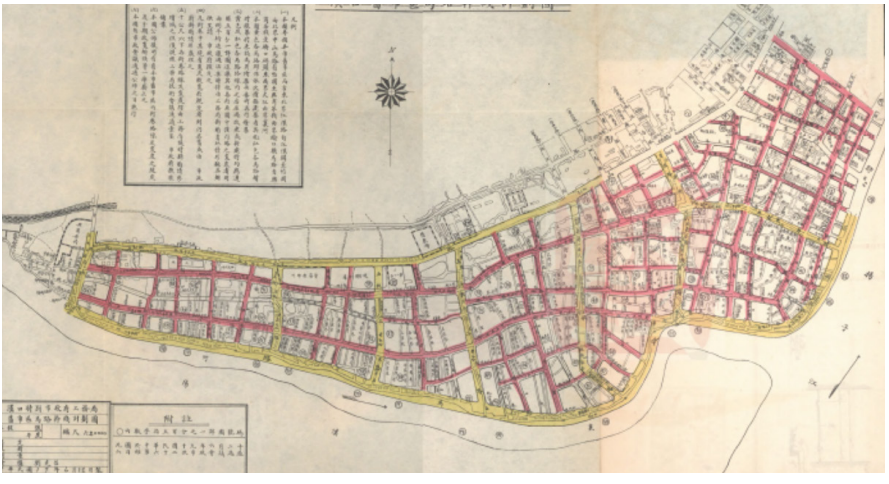

Fig. 9. Street improvement Plan of Hankou in 1930. Source: "The second part, public works: Chapter 12, house demolition " in Introduction of Hankou municipal development, No. 1(1930): figure 1.

CONCLUSION

The street improvement projects in Hankou was highly related to the exchange of modern planning concept and municipal development. Street improvement attracted the attention of the authority government at the beginning. They searched for modern planning technology from the West and learned the close relationship between the transportation system and commercial development, that is, to improve the street, sewing system, railway station, etc. In the late Qing period, they demolished the city wall and constructed roads to destroy the physical barrier and create more grand space to develop commerce and construct the railway hence its commercial status. Thus, although the idea of rebuilding Hankou was unsuccessful, they still chose to construct roads without financial support. This might be why street improvement projects continued to be the first planning issue even in the Kuomintang government period. Through a series of improvement projects within the old city, they remake Hankou into a modern and international metropolis with modern infrastructure, efficient transportation, and a modern streetscape.

As we have seen, the planner's preference for street improvements was not only focused on its commercial function but also on its aesthetics to the city, especially for these improvement planning in the 1930s. In particular, Hankou formed a system of modern streets on the main road scale within the old urban area, but the inside of the street still kept the same urban fabric. Furthermore, the Chinese political and planning elites imported European and American design principles and practiced them in the Hankou local context for their own needs. In conclusion, what was finally formed in the built environment showed hybridization features after implementing continuous planning schemes.

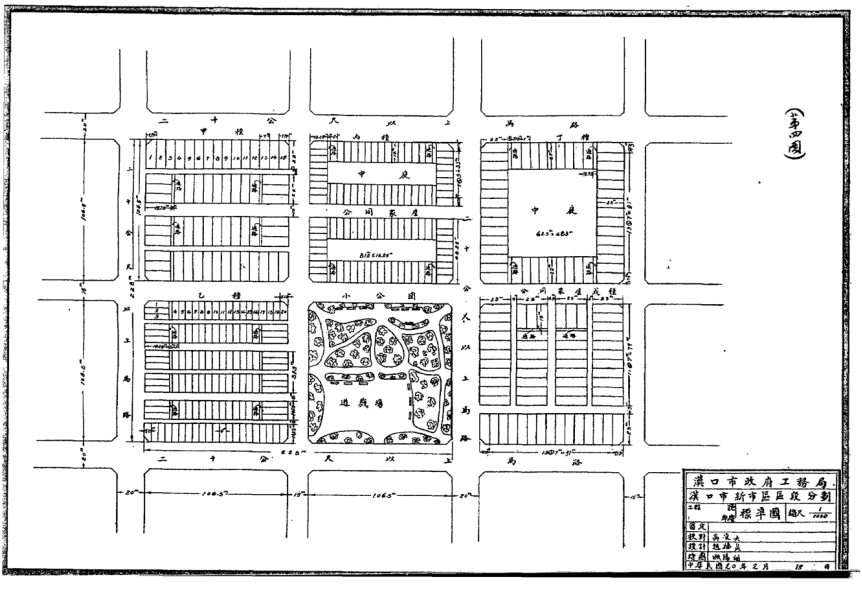

Fig. 10. Zoning division of new district in Hankou. Source: Gao, "City planning of Hankou", figure 4.

DISCLOSURE STATEMENT

No potential conflict of interest was reported by the author.

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ENDNOTES

1. Rowe, *Commerce and society*, 28-29.
2. Rowe, *Commerce and Society*, 17.
3. Ward, *Planning the Twentieth-Century City*, 2; Hein, "Transformation of Planning Ideas".
4. Esherick, *Modernity and nation*,1-16.
5. Sun, "*Road is the first step in National reconstruction*",165-166.
6. Tian, "*phraseology and concepts evolution*",38-39.
7. Li, and Yan, "Neoteric Xiamen",104-110.
8. "Re-exploration ofimitating the West", *Shenbao*(申报), 11 September, 1899.
9. Pi, "Introduction",1-4.
10. The four famous towns refer to Zhuxian Town (prints, New Year's paintings) in Henan, Hankou Town (commercial center), Foshan Town (handicraft industry) in Guangdong, and Jingdezhen (porcelain) in Jiangxi during Ming and Qing Dynasties.
11. "Four Gatherings" was a popular saying about the four most important commercial centers in the Qing Dynasty, including Beijing in North China, Foshan in South China, Suzhou in East China, and Hankou in the Midwest.
12. Sha, *Zhu Zhi Ci* ,11.
13. Dong, *Ziyang academy*, 52.
14. Xu, and Wang, "Hankou chronicles", 4.
15. Fang, "participation of folk Municipal Administration", 49-55.
16. Wang, and Huang. "Chronicles of Hanyang County",9,19.
17. Bird, Isabella Lucy. "*The Yangtze valley and beyond*", 63,69.
18. Weyl, *The Chicago of China*,716-724.
19. Yuan, and Sun, and Li, " Zhang Zhidong's complete works", 4233-4234.
20. McShane, "Transforming the use of urban space",279-307.
21. Hou, and LV, "Xiakou County annals", 118.
22. Yuan, and Sun, and Li, " Zhang Zhidong's complete works", 4272.
23. Ibid.
24. Xu, and Wang, "Hankou chronicles", 6.
25. Su, " Hubei Province,1860-1916", 529-530.
26. Dingle, "China's Revolution", 81-91.

27. Imperial Maritime Customs, "*Decennial Report*", 351.
28. Dingle, "China's Revolution", 172.
29. "The great building of new Hankou",26 March 1912, 6th Edition.
30. Dollar," Private diary of Robert Dollar ",159.
31. "Planning for rebudling Hankou, Shenbao",January 26, 1912, 6th Edition;"Measures of Hankou new market", Shenbao, February 9, 1912, 6th Edition.
32. Bureau of Foreign and Domestic Commerce. "Rebuilding of Hankow",102-103; "Rebuilding of Hankow" ,The Straits Times , 21 February 1912.
33. Reconstruction of the new Hankou. Shenbao, April 20, 1912.
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38. "Yang Du", official gazette, July 23, 1915, No. 1153.
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41. Dong, "Rectifying the traffic plan", 95-102.
42. Public Works Bureau of Hankou Special Municipality, ed,"Planning", 5.
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45. "Public works: notice the demolition of houses along the river road", 166-167;"Public works: general report on house demolition fee of Yanjiang Road ",153-154;Liu Wendao. "Abstract of official documents", 117-118.
46. Public Works Bureau of Hankou Special Municipality, ed, "Regulation", 32-55; "Public works: Interim Rules", 153-154.
47. "Public Works Bureau: improvement of old urban street plan",184-186.
48. Gao, "City planning of Hankou",37-38.
49. Gao, "City planning of Hankou",45.

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The Petroleumscape as Waterscape along the Urban Texas Coast

Alan Lessoff
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Abstract

This paper examines one of the truly significant examples of the engineering of a coastal environment into a comprehensive petroleumscape. The Texas coast from Beaumont-Port Arthur, through Houston, and south to Corpus Christi took shape during the twentieth century as a region that integrated every aspect of oil-and-gas from exploration and extraction through refining, petrochemical manufacture, natural gas pipelines, and intercontinental tanker traffic. Creation of Texas's coastal petroleumscape entailed the range of modern coastal engineering for commerce and industry, from offshore rigs and massive offshore tanker facilities through the elaborate deep-water ship channels at Houston and Corpus Christi. All of this occurred on a low-lying, flood-prone coastal plain, vulnerable to Gulf of Mexico hurricanes, with a southern portion inclined toward aridity. These realities show up in seawalls, breakwaters, drainage systems, and the manipulation of stream beds and wetlands. Petroleum-driven urbanization, in addition, created a demand for fresh water that vastly exceeded accessible resources, resulting in a far-flung network of pipelines, aqueducts, dams, reservoirs, and filtration plants. Urbanization at the same time fostered a critical mass of support for waterfront housing, coastal recreation, and wetlands and wilderness protection that co-existed uncomfortably with the petroleum economy that had brought people and wealth to the region in the first place. Recent hurricanes, most ominously Harvey in 2017, dramatize the extent to which Texas's petroleumscape as waterscape might have been self-annihilating from the start. Still, this region is so intertwined with petrochemicals that a future beyond paleotechnology is hard to imagine there.

Keywords

Houston, Corpus Christi, ports, Texas, urban regionalism, coastal development, urban environments, petrochemical industry, global warming

How to cite

Lessoff, Alan, "The Petroleumscape as Waterscape along the Urban Texas Coast". In Carola Hein (ed.), *International Planning History Society Proceedings*, 19th IPHS Conference, City-Space-Transformation, TU Delft, 5 - 6 July, 2022, TU Delft Open, 2022.

Alan Lessoff

The Petroleumscape as Waterscape along the Urban Texas Coast

Ideology versus Livelihood

How the main architecture and urban planning journals in China have recorded the urban transformation of Daqing

Penglin Zhu
TU Delft

Abstract

In the early 1960s, the national campaign of building the petroleum industry in Daqing, the first giant oil field discovered in northern China, shaped the built environment and architecture styles in China. The urban planning of Daqing was first a tool to realize the nationally economic objective of oil independence, then a vehicle for the Communist Party of China (CPC) to propagandize the ideology of hard work and plain living. As the first petroleum industry city planned and built entirely by the CPC in the early 1960s, Daqing was the best paradigm for the central government to present their ideal spatial practices in China. The central government thus arose the movement of 'Industry, learning from Daqing' (LFD) in 1964 in order to promote simple architectural composition and low-cost building. As imposed by the national government, such a movement did not encounter any interference from the Chinese architecture and urban planning magazines between the 1960s and the 1970s. But, soon after the Chinese economic reform of the late 1970s, these magazines started to publish a few papers from the prominent Chinese urban scholars which interpreted the LFD movement in a diametrically opposing way. The magazines attempted to illuminate the sceptical views of urban planners and architects. Moreover, after the 1990s, these magazines rarely discussed the urban development of Daqing though there was a significant improvement in the built environment. The contradictory arguments on the main Chinese architecture and urban planning journals have engaged with policy shifts. These journals are more than primary platforms for sharing knowledge, stimulating discussion, attracting more architects and urban planners, and even advertising. They have to convey the political ideology rather than simply focusing on improving the people's livelihood. Taking the example of the records of the LFD movement, the paper explores how the political influence as a hidden design force that interacted with the records on the main Chinese architecture and urban planning journals in three periods, in the 1960s-70s, the 1980s-90s, and after the 1990s respectively. It argues that the changes of these journals have reflected the de-politicisation process of the Chinese planning system. This paper presents the planning history of a petroleum industry city in view of its spatial representations. It is a research outcome from the ongoing research under the framework of the global palimpsest petroleumscape, which was proposed by Carola Hein, professor of history of architecture and urban planning at TU Delft.

Keywords

Petroleumscape, Daqing, architecture magazine

How to cite

Zhu, Penglin, "Ideology versus Livelihood: how the main architecture and urban planning journals in China have recorded the urban transformation of Daqing". In Carola Hein (ed.), *International Planning History Society Proceedings*, 19th IPHS Conference, City-Space-Transformation, TU Delft, 5 - 6 July, 2022, TU Delft Open, 2022.

6 JULY: SESSION 3.1

RECONCEPTUALISING PLANNING.

Chair: Ivan Nevzgodin

The new life of ground floor and the adjacent territory of mass housing under the pressure of constant functional processes

Klavdia Kamalova
Siberian Federal University

Abstract

The main problem of mass housing heritage is the constant spontaneous transformation and adaptation of the residential areas, often without taking into account the original design project and despite of function plan of the adjacent territories. Thus, the residential area faces by violation of functional, spatial continuity due to the integration of citywide facilities; reduced security due to unauthorized transit pedestrian routes and events; limited physical accessibility due to large-scale interference of urban processes and services. The above has a powerful influence on the main value of the mass housing areas - open and public spaces. In addition, these processes provoke the uncontrolled integration of new mainly commercial functions on the ground floor. Most transformations are more often of a negative nature. Since the new usage conditions of the premises of the ground floors at the same time attracting attendant processes which belong to street and city property. Thus creating a gap between courtyard and apartments on the upper floors. First, buildings located at the intersection of pedestrian and transport routes and near public transport stops are being re-equipped. Impulsive uncontrolled commercial functions, the chaotic process of “seizing” semi-private (yard) space cause a big number of problems: violation of the integrity of private physical boundaries due to the integration of citywide facilities; degradation of spaces adjacent to residential neighborhoods and modes of operation of residential facilities due to the organization of services; interference in the operation of dwellings; deformation and insecurity of yard space due to the displacement of internal red lines and increased traffic; changing the mode of operation of intra-block territories due to the intersection of transport and pedestrian paths, insecurity of residents in general, due to the integration of transit pedestrian paths of unauthorized people, processes, activities; restrictions on the physical accessibility of the territory; inefficient use of land registered as green spaces. The result of this research is the identification of the dependence between the transformations of the ground floor structure an apartment building and the accompanying territorial processes. Based on the analysis of residential planning elements of Krasnoyarsk built in 1956-1991, it became possible to formulate the typology of the first floor. The controlling factor is a number of typological urban models, such as a pedestrian street, a public recreation area or an inner courtyard. They define the necessary function

for the ground floor in order to create a completely comfortable living environment. Thus, the new typology assumes, in addition to the usual residential function, the allocation of the following types: for services, for storage of vehicles, for office space, for public, etc.

Keywords

urban planning, residential areas, mass housing

How to cite

Kamalova, Klavdia; "The new life of ground floor and the adjacent territory of mass housing under the pressure of constant functional processes". In Carola Hein (ed.), *International Planning History Society Proceedings*, 19th IPHS Conference, City-Space-Transformation, TU Delft, 5 - 6 July, 2022, TU Delft Open, 2022.

Shanghai's Old Town
The Challenges of Urban Renewal and Strategies for the Protection of Built Heritage

Katya Knyazeva
Universitá del Piemonte Orientale

ABSTRACT

Shanghai's old town (*laochengxiang*) has every quality of a living historic district in the centre of a modern metropolis. Its archaic, small-grain and varied urban form is inhabited by a long-standing local community with strong familial connections to the city. But in the absence of effective conservation mechanisms, the old town's built environment and social fabric are in danger of disappearance, as large pieces of its territory are handed over to commercial developers. The fast pace of blanket modernisation exposes a glaring need for better frameworks of heritage protection. Focusing on the on-going urban renewal project of the Qiaojia Road area, this article illuminates the challenges of heritage management under the pressure of urban development and discusses strategies and attitudes necessary to safeguard Shanghai's historic urban landscape.

Keywords

Shanghai, modernisation, built heritage, preservation, redevelopment, historic urban landscape, architecture, urban vitality

How to cite

Knyazeva, Katya; "Shanghai's Old Town: the Challenges of Urban Renewal and Strategies for the Protection of Built Heritage". In Carola Hein (ed.), *International Planning History Society Proceedings*, 19th IPHS Conference, City-Space-Transformation, TU Delft, 5 - 6 July, 2022, TU Delft Open, 2022.

DOI: 10.7480/iphs.2022.1.6516

INTRODUCTION

The world's most admired historic towns and cities possess an organic quality—a wholeness, manifest in their overall form and every detail down to the last ornament.[1] These places are perceived as vibrant, living things, expressions and anchors of local cultural identity. Municipal governments usually recognise the unique value of historic towns and protect them from environmental attrition and the pressures of the free market. The former walled city of Shanghai (*laochengxiang*), which occupies two square kilometres in today's Huangpu District, has all the qualities of an important living historic district. Its archaic, small-grain and varied urban form is populated by a long-standing community with ancient familial connections to the site. But in the absence of effective conservation mechanisms, large pieces of the old town's territory have been handed over to commercial developers. As a result, the old town's urban environment and historic character are in danger of disappearance.

The old town of Shanghai has been the subject of numerous works on geography, history, architecture and culture,[2] but studies focusing on planning, managing and protecting its historic landscape are in short supply. There is a noticeable absence of critical dialogue on the long-term consequences of the rapid commercial redevelopment, with only a limited number of works studying the consequences of mass relocation of downtown residents to the suburbs and the challenges of recreating communities and rebuilding livelihoods.[3] Noticeably absent from the academic discourse is any politically sensitive topic, such as the alliance of municipal authorities with national and transnational investment capital in their drive for the redevelopment of historic urban areas.

On the eve of the Chinese New Year, on January 31, 2019, the Huangpu District government announced the redevelopment (*gaijian)* plan for the area around Qiaojia Road, in the old town.[4] The area included almost the entire old town's south-eastern quarter (Fig. 1), or 16% of its total area, covering 287,700 sq m and containing more than 30% of its extant historic architecture.[5] The evacuation of the neighbourhood began in the spring of 2019 and accelerated in the second half of 2020. As in the past, the most frequently cited reason for the modernisation is the improvement of the living conditions of residents, particularly the sanitation problem. In the past, the modernization projects started with the obligatory relocation of the residents, followed by the expropriation and demolition of the buildings, and finished with the construction of large-scale residential and commercial properties. Although no concrete plans for the Qiaojia Road site were made public, in the past, the land cleared of historic housing ended up commercially redeveloped. This puts stress on the resident community, conflicts with the existing legal framework and challenges the municipal guidelines for the protection of architectural heritage. A deeper scrutiny of the modernization process of Qiaojia Road area helps articulate the tensions arising from the push for urban renewal, identify the most common mechanisms of heritage mismanagement and discuss potential solutions.

Fig. 1. Plan of Shanghai's old town, with Qiaojia Road redevelopment zone highlighted (pink); other active redevelopment zones are in grey: Jinjiafang neighbourhood is on the left; Anren Street zone is on the right.

QIAOJIA ROAD: HISTORICAL CONTEXT AND URBAN ENVIRONMENT

Qiaojia Road, in the south-eastern quarter of Shanghai's old town, is about 530 meters long. Its trajectory follows the curvilinear route of Qiao Family Creek (Qiaojiabang), earlier called Xue Family Creek (Xuejiabang), a natural waterway that meandered through Shanghai, passing through a culvert in the city wall next to the Little South Gate (Xiaonanmen) and connecting to the Huangpu River. As the oldest residential neighbourhood in central Shanghai, Qiaojia Road is a palimpsest of various urban forms, from the 16th century to the present era, altogether containing more than 30% of the old town's surviving historic architecture.[6] This density, variation and architectural richness of this area is partially due to the constraining role of the city wall, erected in 1553, which restricted Shanghai's urban development. The densely populated

eastern half of the walled city contained vital institutions and opulent residences and had convenient pedestrian and waterway connections to the river port. By the end of the 18th century, Shanghai had enough cosmopolitanism and complexity to be considered a city. The density of the intramural cityscape kept increasing, as large estates were divided among the new generations, changing hands and disappearing. Beyond the city wall, the riverside neighbourhood of Dongjiadu was developing, populated by the provincial immigrant shippers, port labourers and artisans. The new properties that emerged in their place were still spacious and luxurious by any standards, composed of multiple interconnected U-shaped courtyards. Scattered among the residences were private academies, temples, monasteries and charity institutions, many of which have partially survive in the Qiaojia Road area (Fig. 2, 3).

The establishment of the Republic in Beijing in 1912 prompted the modernisation of Shanghai's walled city, the dismantling of the old wall and the conversion of the inner city waterways into cobblestone-paved roads. Like elsewhere in Shanghai, complexes of terraced houses, known as *lilong*, emerged on Qiaojia Road in the 1920s. The bombardments at the onset of the Japanese military occupation in 1937 incurred less damage here than in other parts of the city, helping maintain most of the historic urban landscape into the 21st century.[7] But as a result of overcrowding, unchecked augmentations and modifications, many aged buildings have been partially rebuilt or surrounded by new construction. Still, Qiaojia Road still has every parameter of a great street, as confirmed by a large volume of research, journalism and legislation devoted to it[8]. 'Great streets', as defined by Allan B. Jacobs (1995 and 2011), are those markedly superior in character or quality; they encourage socialisation and serve as forums for public expression; they have narrow sheltered passages protecting pedestrians from moving cars, small blocks that increase comfort and enhance variability, and architecturally rich buildings.[9]

A 2009 analysis of the urban form along Qiaojia Road, which focused on the area of 52,810 sq m, or one-fifth of the present-day redevelopment zone, found 15 buildings and architectural ensembles originating in the Ming era (1368–1644),[10] including several multi-bay two-story residences, a single-story ancestral temple and other urban forms. There are 43 buildings and ensembles dating back to the Qing era (1644–1911), comprised mostly of one- and two-story wood-and-brick courtyard dwellings. There were also 63 *shikumen* and *lilong* type buildings—standalone or arranged in compounds—and another 44 residential and commercial buildings from the Republican era, built between 1911 and 1949.[11] Throughout the entire redevelopment zone, various historic artefacts and monuments are scattered: courtyard residences, lane compounds, row houses, inscribed boundary stones, groundwater wells, gates, pillars, plaques, pavements and mature trees. The largest and the most valuable landmark within the Qiaojia Road redevelopment circuit is Shuyinlou, or the Hermit's Library – a vast complex of wood-and-brick halls and towers from the Ming and Qing eras, arranged in courtyards and surrounded by a tall wall.[12] Listed as a Grade AAA national scenic landmark, Shuyinlou has thus far avoided invasive renovation or adaptation for heritage tourism. But as a private property it has been denied any national or international conservation funding. In the past decade the lack of intervention has accelerated its deterioration, leading to the rapid spread of decay, severe weathering of structural and decorative elements and the collapse of some buildings.

Fig. 2. Qiaojia Road, view west. On the right, Ming-era Qiao family's residence (Zuiletang) is surrounded on three sides by lilong complexes from the Republican era; Qing-era courtyard residences are seen in the distance.

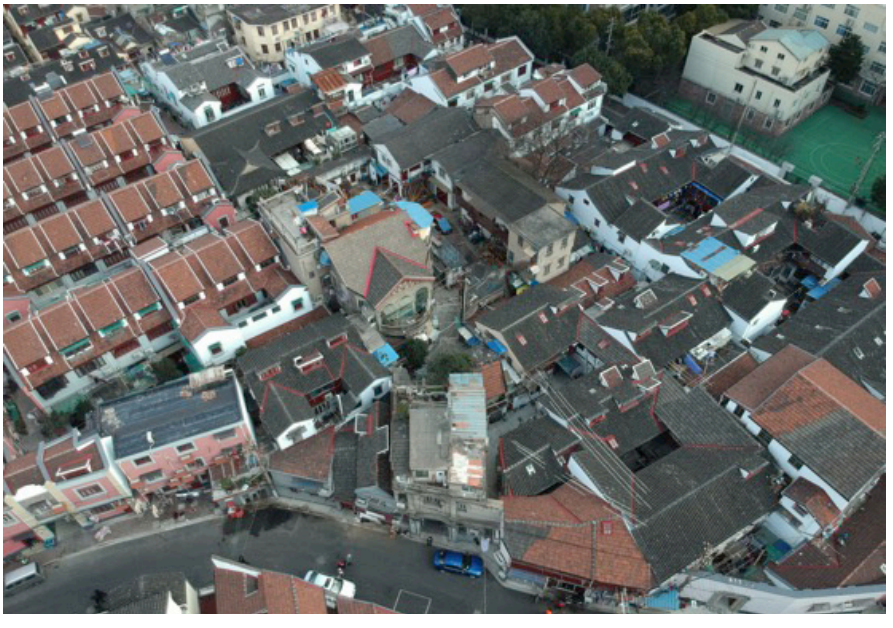

Fig. 3. Eastern end of Qiaojia Road. Catalpa Garden mansion (1916) is in the centre; Qing-era garden pavilions behind; the lilong compound Qinshenfang is on the left; Qing-era residence Yijiatang is on the right.

Fig. 4. Color-coded map of Qiaojia Road, included in the 2005 heritage protection guidelines. Red indicates 'architecture to protect'; orange indicates 'historic architecture to preserve'; yellow indicates 'first-rate ordinary historic architecture'; brown indicates 'second-rate ordinary historic architecture'; light-purple is 'architecture due for demolition'; blue is 'other arhitecture'.

QIAOJIA ROAD: THE FRAMEWORK FOR PROTECTION

When Qiaojia Road neighbourhood was set on a fast track of redevelopment, it was in violation of its status as a protected zone within broader municipal guidelines. A heritage preservation framework for the old town exists since November 2003, when the city government outlined twelve historic urban zones for architectural and environmental conservation.[13] The entire old town (*laochengxiang*), contained within the circle of Renmin Road and Zhonghua Road, was designated as one of these zones. Additionally, in November 2005, the municipal government publicised heritage protection guidelines for the old town,[14] accompanied by a detailed survey prepared by urban planning and architecture experts (Fig. 4). The survey classified the old town's architecture according to its age, value and utility. In the present-day Qiaojia Road redevelopment circuit, more than half the buildings were found to be historic, i.e. dating before 1949. Among them, four were classified as 'architecture to protect' (*baohu jianzhu*), such as the Shuyinlou complex, the late Ming-era ancestral hall of the Xu family, three Qing- and Republican-era buildings in the Catalpa Garden, and the late-Qing fire station watchtower. The next category, 'historic architecture to preserve' (*baoliu lishi jianzhu*), included 30 courtyard buildings and lane compounds. Ranking below it, the category named 'first-rate ordinary historic architecture' (*jiadeng yiban lishi jianzhu*) included 106 buildings and lane complexes in a good state of preservation. The 'second-rate ordinary historic architecture' (*yideng yiban lishi jianzhu*) category, included more than 540 buildings, ranging from courtyard residences to single-bay storefronts. The age, morphology and appearance of these structures were similar to the above categories, but the lower rating opened a possibility for the modification.[15]

Fig. 5. Sea Merchant's Guildhall in Dongjiadu, on a lot cleared of other historic housing. 2016.

The largest group within the Qiaojia Road redevelopment circuit, containing over 900 buildings, was named 'architecture due for demolition' (*yingdang chaichu jianzhu*). These were post-1949 homes, shops, service buildings, storefront extensions, canopies over the courtyards, external bathrooms, kitchens, sheds and storage rooms built outside and between pre-existing buildings. More than anything, this category reflected the overpopulation and the residents' attempts to modernise their dwellings and workplaces using minimal means. It was at the expense of these ad-hoc but vital additions that the density of the built environment was to be decreased. The final group, 'other architecture' (*qita jianzhu*) included 38 modern buildings, among which there were apartment houses, schools and covered markets.[16]

The 2005 heritage protection guidelines did not provide any enforcement mechanism, leaving their implementation at the discretion of individual developers. They neither prioritised the conservation of historic architecture and urban environment nor addressed the needs of the resident community. They did, however, assess the old town's territory from the perspective of expanding the automobile infrastructure and designating more land for the new construction. But they completely overlooked such concerns as social wellbeing, environmental sustainability and urban vitality. The latter notion, first discussed in Jacobs (1961)[17], implies a continuous presence of pedestrian activity in an urban area throughout the day. Widely embraced by urban planners in the West, urban vitality is not taken seriously by Shanghai planners, although it is inherently present in Shanghai's old town and is synonymous with good health of the urban environment.

City streets exist not only to provide movement and access to property, but also to play symbolic, ceremonial, social and political roles. But Shanghai's planning approach reduces all street functions to the imperative of transportation, while prioritising automobile traffic over other means (pedestrian, electric bicycle, motorbike, public transit). This approach is known to transform vibrant and walkable historic streets into high-volume traffic channels hostile to pedestrians. In 2015, Ninghe Road, which intersected Qiaojia Road and housed an open-air wet market, was widened and opened to automobile traffic, disastrously for the neighbourhood. All the market stalls, kiosks and canopies were demolished, and Ninghe Road became a perpetually clogged traffic artery. Other streets in the area – Meijia Street, Xitangjia Street, South Guangqi Road – are scheduled to follow suit. The planned widening and extension of Penglai Road will intersect a dense residential neighbourhood and bring the automobile traffic to the gate of the Shuyinlou complex.

In the absence of any information about the future of the neighbourhood or a formal dialog with the government and developers, the public discussion about the transformation of the Qiaojia Road neighbourhood has been taking place at online forums. One of the suggestions discussed by the participants was whether the area might fall under the policy of 'keep the houses, don't keep the people' (*liu fang, bu liu ren*).[18] But by the admission of the representative of the Municipal Congress Jiang Huayun, only 'some of the more valuable buildings might be considered for preservation, by means of moving them close together to form a contiguous landscape (*yi di bao hu*)'.[19] Recent urban renewal projects, such as the adjacent Dongjiadu area in 2010–2013, demonstrate the developers' tendency to spare only the officially designated heritage architecture protected by the law. Qiaojia Road area has only four such protected structures. Shuyinlou (77 Tiandeng Lane) and the residence of Xu Guangqi (234–244 Qiaojia Road) are city-level protected cultural landmarks, while Catalpa Garden (113 Qiaojia Road) and Xiaonanmen watchtower (581 Zhonghua Road) are protected at the district level. The rest of the historic landscape is vulnerable in the face of the modernisation.

To understand what happens to the historic landscape when only select historic structures are preserved in a modernised urban context, it is enough to look at the neighbouring district of Dongjiadu. Prior to its redevelopment in 2010–2013, it was a living historic neighbourhood, similar in morphology and character to Qiaojia Road area, but with an added historical connection to the river port and the traditional shipping industry. By the turn of the 21st century, Dongjiadu still had a large number of well-maintained wood-and-brick residences, merchant guild buildings and *lilong* houses. A 2008–2013 topographical research identified more than 50 historic architectural ensembles with outstanding architectural features and in good condition.[20] Dongjiadu was never included in the twelve heritage preservation zones, and in the years 2010–2013 more than half of its territory, or 500,000 sq m of historic urban fabric, was demolished. The area was transformed into a rectilinear grid of wide streets lined with high-rise residential and office blocks, named the Dongjiadu Financial District. Only two historic buildings, officially designated city-level protected landmarks, remain in Dongjiadu: St. Xavier's Catholic Cathedral and Sea Merchants' Guildhall (Fig. 5). The outcome of the selective preservation in Dongjiadu is an incoherent urban environment devoid of beauty and cultural significance, unable to sustain a vibrant community.

REAL AND RHETORICAL PROBLEMS OF AGED HOUSING

The low status of built heritage is reflected in Shanghai's media discourse. Before the redevelopment, Qiaojia Road was often described it as Shanghai's best-kept secret and a portal to the city's past. Multiple academic and journalistic investigations brought to light the architectural richness of the old town, its role as a retainer of the city's collective memory and its vulnerability in the face of modernisation. In 2017, Qiaojia Road's ambience, landmarks and celebrity anecdotes were featured in an international airline magazine. But more recently the focus on the old town has turned from positive to negative. After the announcement of the redevelopment plan in January 2019, Qiaojia Road area in invariably portrayed as a slum, which the residents are happy to leave behind. 'Goodbye toilet bucket; Qiaojia Road is undergoing renewal,'[21] is a typical newspaper by-line. In July 2019, the Huangpu District governor Chao Kejian elaborated: 'After successfully expropriating 8,000 old households one year ahead of schedule, we will continue exerting ourselves to complete the expropriation of 12,000 households during the next year. This means eliminating 12,000 toilet buckets! Huangpu is the most important area in the city, and there are still 65,000 toilet buckets in use.'[22]

The district's answer to the sanitation problem appears to be the blanket demolition of old housing and the transfer of the land for commercial redevelopment. The association of old housing with unsanitary conditions helps motivate the residents to move out. It is rarely discussed that if the majority of old town residences are state-owned subsidised public housing, the sanitation problem should have been addressed earlier. But the degradation and depreciation of old housing gives an advantage to developers, as it reduces the amount of compensation due to be paid to the residents. Years and decades can pass between the first official announcement of the scheduled modernisation and the distribution of the compensation.[23] During the wait, even the historically valuable, aesthetically attractive and formerly comfortable residences are no longer maintained and fall into an unliveable and dangerous state. The dilapidation of the old town presents a stark contrast with the other parts of the city, which have seen multiple improvements in the recent decades.

Poor living conditions ensure a large degree of popular support of the redevelopment. The news of upcoming demolition sends a signal to the residents of old buildings that after decades of neglect the authorities are finally concerned with their wellbeing. In Wechat groups and web forums, residents share their knowledge of evacuation schedules and compensation programs, trying to predict the outcomes of the relocation lottery. The authorities withhold vital information from the residents and frequently revise compensation formulas. As a result, in spite of the tenfold increase of the housing market prices since 2002, the compensation for expropriated housing per square meter has not even doubled.[24] Inadequate compensation pushes many residents to accept relocation to the discounted housing at the periphery of the urban area, with larger and more modern living spaces but poor transportation links. Recent research has found that such forced relocation fails to improve the wellbeing of urban residents[25]. Migration to the urban edge has been associated with social isolation and economical setbacks, and the new high-rise neighbourhoods are not conducive to the tightly knit communal life and small-scale enterprise.

In Shanghai, urban development depends largely on the new construction, and the lion's share of the city's income is derived from land exploitation. In this situation, historic neighbourhoods are seen as an undesirable presence, gratuitously occupying downtown land and slowing down the city's growth. Individual historic buildings become candidates for preservation only when their decorative features can be exploited commercially. These properties tend to be voided of residents, gutted and substantially rebuilt to suit business uses. 'Upscale preservation' projects like the commercially successful Xintiandi (2001) have been criticised for simulating historic preservation, for monopolising the commons and for making urban housing unaffordable. [26]Adapting residential housing to commercial use has been found to dismantle of long-time residential communities, infringe on individual private property rights, replace mixed use with single use, and promote income-based inequality[27]. The new commodity housing is never affordable, and the options for low- and middle-income living in central Shanghai are further diminished, which undermines the people's trust in the local government[28].

The evacuation of the Qiaojia Road neighbourhood has been progressing quickly, with windows and doors of vacated houses boarded up, and the alleys and passages closed off. The Huangpu District governor Chao Kejian has repeatedly called to increase the speed of evacuation: 'Time is of utmost concern. After finishing the eastern block of Qiaojia Road, we will get to the west one, and then there is the north block to do.'[29] This exploitative pattern of urban renewal contradicts the official rhetoric emphasizing sustainable development. The blanket erasure of historical urban environment and communities precipitate a long-term cultural decline in Shanghai. Heritage mismanagement reflects poorly on the chances of the inclusion of Chinese urban sites into UNESCO Heritage lists, which are viewed nationally as a benchmark of international status and toward which the country's cultural agencies are oriented.[30] The reorientation of the municipal authorities' agenda toward a more conscientious management of built heritage could inform the strategies and attitudes necessary to safeguard Shanghai's historic urban landscape.

RESTORATION OF SHANGHAI'S OLD TOWN: ATTITUDES AND STRATEGIES

Urban prosperity does not require the demolition of aged buildings and the displacement of communities, as the European experience suggests, and in spite of the differences in political systems, Shanghai has multiple points of contact with European cities. Beyond its youthful, forward-looking image, it is a mature city, as evidenced by its decentralization and its multiple contiguous historic areas. The total area of Shanghai's twelve protected historic zones exceeds 27 sq. km, which is twice the size of the historic downtown of Rome. The old town – one of twelve historic zones, has the same size as the walled city of Lucca, Italy, or Rhodes, Greece, and it is twice as large as the Old Town of Jerusalem. Its heritage value and tourism potential are undeniable if one shakes off the pervasive spell of the media branding it a ghetto.[31] The old town occupies a prominent place in Shanghainese cultural production and local identity. It could be a model site for a wide-ranging and inclusive restoration strategy, whose logic would derive from the character and the genealogy of the site and adhere to the spirit and the letter of the current preservation guidelines.

Fig. 6. Resident of the Qing-era garden pavilion, on the territory of the former Catalpa Garden, 2016.

Fig. 7. Street scene on South Guangqi Road, near the intersection with Qiaojia Road, in 2010, before its widening and opening for automobile traffic.

The historic old town could be central to Shanghai's future, similarly to Hong Kong's Pokfulam village. A settlement of 200 people originating as a late 19th-century squatters colony is made up of makeshift structures with corrugated tin roofs, but it is included on the World Monuments Watch (WMW) list alongside some 740 sites globally.[32] In spite of the shortage of architectural landmarks, the attraction and strength of Pokfulam lie in the profuse and distinctive variation of forms within the same typology. Shanghai's old town, with its abundant antiquities and cohesive urban landscape, would make a strong candidate for the WMW list. Mature neighbourhoods have a special way of enriching the city, offering a long-term stable base for the community, fostering local entrepreneurialism and generating tourist interest. The old town has an additive, organically formed structure, which makes it a coherent and equilibrated townscape, where each small pattern reinforces the whole image.[33]

What is needed is a set of integrated programs to address structural problems and implement long-term improvements in the economic, physical, social and environmental conditions. In recent decades, a number of European-Chinese collaborative projects have addressed historic towns in China and successfully reversed the physical decay, economic stagnation and loss of cultural identity while fostering cultural continuity, social interconnection and tourism.[34] Examples include the Zurich IRL-Institut's Shaxi Rehabilitation Project in Yunnan Province,[35] or the Sino-Norway cooperative Tang'an Dong Ethnic Eco-museum in Guizhou Province.[36] In Shanghai, a positive example is Xinchang water town, in Pudong New Area, which manages to balance tourist development with continued high liveability.[37] A recent study focused on Yingping District, Xiamen, proposed a typology- and morphology-based approach for the restoration of the historic downtown.[38] Inspired by the Italian practice of 'redevelopment by tradition',[39] the authors analysed existing urban morphology and identified integral elements in the urban fabric as the basis for a broader revival. For Xiamen, these elements were arcaded buildings, courtyard houses and so-called 'Western-style buildings'. For Shanghai's old town, these would be the lane compounds, courtyard complexes and low-rise commercial storefronts and the imprint of a network of old waterways. The quality of construction and the characteristics of individual buildings, clusters and passages could inform the strategies for intervention.

Shanghai old town's unique feature is the overlapping and mutual complementarity of architectural forms from different epochs: 20th-century *lilong* compounds, street-level shophouses from the 18th and 19th centuries, courtyard dwellings from the 16th–19th centuries, and various hybrid buildings. This layering can enrich and guide the restoration strategy. The areas where the most valuable and best-preserved landmarks concentrate can become showpiece passages and clusters, prioritised for conservation and renovation, eventually drawing the 'connective tissue' of interstitial buildings into the rejuvenation program. Elements of this process are outlined in Tongji University's graduate research papers[40, 41], which define and discuss the creation of 'history corridors', 'public archives' and 'memory centres'. The rejuvenation of individual buildings and complexes, such as Shuyinlou, can recreate the success of its 'sibling' Tianyige library, Ningbo, where the original owners have remained custodians of the museum in their heirloom residence, or the Henghouci guildhall in Zigong, Sichuan Province, where commercial teahouses and antique stores operate in authentic historic spaces around the central courtyard.

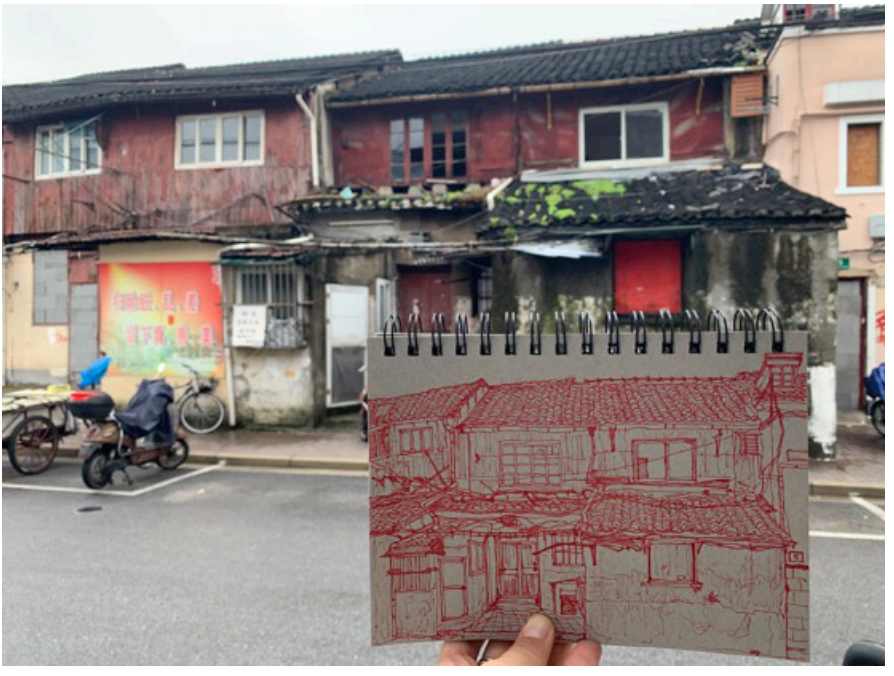

Fig. 8. Artist holding her drawing of Qiaojia Road, showing boarded-up windows and doors in anticipation of the demolition. August 2020.

Urban vitality could be the central concept in long-term planning for Shanghai's old town. Urban vitality is present when a neighbourhood has pedestrian flows during the entire day, a large number of cultural events and celebrations over the year, an active street life, and when the place feels lively in general[42]. A crucial indicator of thriving cities, urban vitality is synonymous with good health of urban environment, but it arises only when the built environment has the capacity to boost lively social activities. As various researchers suggest, the presence of aged buildings is a prerequisite for fostering urban vitality.[43] Old urban cores in China's cities have been found to have high density of housing and workspace patterns, which promote sufficiently diverse conditions for urban vitality.[44] Aged housing naturally supports urban vitality, whereas large-scale single-function housing projects fail to create the necessary conditions, becoming zones of low pedestrian intensity and mono-function. Recent studies have found urban vitality declining in Shanghai[45]. Zones with the highest urban vitality were found clustered in the Huangpu, Jing'an and Xuhui Districts, where most of Shanghai's historic housing is located, underscoring the crucial importance of historic housing. By contrast, the modernized Dongjiadu area received a very low urban vitality score in spite of the high density of housing in new apartment blocks.

Studies of Shanghai's characteristic low-rise terraced housing, or *lilong,* confirm that it fulfils the definition of "good" urban form that fosters urban vitality[46]. *Lilong* houses have been on the front line of historic habitat studies and renovation experiments.[47] Aged between 80

and 100 years old, they still have a cachet of structural durability and social relevance. They readily lend themselves to modernisation while maintaining such positive features as high population density, neighbourliness, safety, familial connectedness, walkability, conditions for small-scale enterprise and local infrastructure. Maintaining the existing community has been an important aspect of all successful renovations in the old town. An experimental rehabilitation project in the lane compound at 252 Penglai Road, carried out in 1991–1993, was an unqualified success for the urban environment. According to the survey accompanying the project, when given a free choice, 19 out of 21 families chose to stay in the renovated apartments.[48] The project proved that a combination of socialist and market-driven approaches is possible and economically viable.[49]

CONCLUSION

Historic towns are resilient but fragile. Changes in population, occupational patterns, lifestyle and technology have made historic neighbourhoods appear inefficient, outmoded and expendable. But old stones are catalysts for thoughts and feelings, and there is a very real emptiness in streets where they are missing. New projects often fail to transition from property developments to neighbourhoods, because magic and neighbourliness cannot be conjured by a plan. 'Great streets' grow slowly, from the accretion of structures manipulated over time by the people who have lived in the same place for multiple generations; top-down urban renewal projects interfere with this delicate process. Globally, many historic cities have been left scarred, when their authorities have been derelict in their custodianship of heritage. On the paper, Shanghai municipal government is committed to the long-term protection of built heritage. Shanghai Master Plan 2017–2035, published in 2018, includes the Old City as one of the 'historic cultural and scenic areas' and envisions the creation of new historical and cultural conservation mechanisms[50]. Putting this commitment into practice would require a substantial revision of the present-day pattern of modernisation of historic districts.

'Any great city needs rich history to support it, including material remains and collective memories of different eras,' stated Tongji University's Li Yingchun at the closing session of a month-long exhibit of documents, artefacts and artworks dedicated to Jinjiafang, in October 2018.[51] Jinjiafang was yet another 'great street' in the low-rise historic neighbourhood known as Laoximen, whose demolition was announced in 2007 and began ten years later. Another enclave of historic urban fabric, wedged between Fangbang and Chenxiangge Roads, was cleared away in 2019, as eviction and expropriation were commencing in the historic neighbourhood of Anren Street (Fig. 1).[52] The erasure of Shanghai's built heritage is both radical and accelerating. Residents and heritage experts standing in opposition have no shortage of expertise, goodwill and human resource, but there is a glaring need for the official action toward sustainable planning and better heritage management. As it stands, Shanghai's old city is set to disappear within a decade.

DISCLOSURE STATEMENT

No potential conflict of interest was reported by the author.

NOTES ON CONTRIBUTOR(S)

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1. Alexander, *A New Theory*, 2.
2. He, *Laochengxiang wanqing*; Xu and Zu, *Laochengxiang: Shanghai chengshizhi gen*; Zhu, *Shanghaishi yange dili; Su, Shanghai chengqushi; Knyazeva and Sinykin,* Shanghai *Old Town*; Zhu, "Qiaojia Road in the old city area"; Zhang, *Old City*; among others.
3. Among the notable works are Shao, *Shanghai Gone*, and Sommers, "A Tragedy of the Commons".
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5. This calculation refers to the square area of three redevelopment zones around Qiaojia Road (Qiaodong, Qiaoxi and Qiaobei), outlined by East Fuxing Road, Xundao Street, Zhonghua Road, Yujia Lane, South Guangqi Road, Huangjia Road, Ninghe Road, Yeshiyuan Lane, South Henan Road, Nanzhangjia Lane and Wangyun Road.
6. Calculation based on Baidu, *Shanghai laochengxiang lishi wenhua fengmaoqu baohu guihua*.
7. Based on Department of Geography, *Untitled aerial map.*
8. The most recent, and possibly the last, is Ni, *Qiaojialude gushi* (2020).
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10. Fu, *Shanghaishi qiaojialu.*
11. Based on Fu, *Shanghaishi qiaojialu* and Department of Geography, *Untitled aerial map*.
12. Wei, *Shuyinlou jianzhu yanjiu*.
13. Government of Shanghai, *Shanghaishi 12 ge lishi wenhua fengmao baohuqu*.
14. Government of Shanghai, *Shanghai laochengxiang lishi wenhua fengmaoqu baohu guihua*.
15. Ibid.
16. Survey details were absent for certain zones, such as the block outlined by Penglai, Wangyun and Henan Roads, which was designated as land under construction, in anticipation of the continued expansion of Shilin Huayuan multistorey residential complex.
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21. Pengpai Xinwen, *Gaobie shoulin matong*.
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37. Zeng and Chen, *Exploration of the Protective Development Model*.
38. Xie, *Learning from Italian Typology*.
39. Kupka, *Italy: Redevelopment by Tradition*.
40. Fu, *Shanghaishi Qiaojialu*.
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The Modern housing heritage of two German states

Exploring current heritage values and approaches of urban conservation

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Abstract

Modernism revolutionised German cities, and it continues to shape them through its building structures and ideas. This is particularly evident in late modernist housing construction, which set new standards in terms of quality and quantity: In contrast to previous developments, interdisciplinary teams of planning experts, engineers, and architects, created new urban images, formal languages, functional arrangements of urban space, and building technologies. In post-war Germany, housing construction was part of far-reaching socio-political ambitions and welfare state approaches in the fight against the extreme housing shortage that had resulted from industrialisation, rapid urbanization, and war. A uniquely large amount of new housing was created in the two German states, aiming to establish a new social reality of more acceptable and equal dwelling and shaping urban space and perception. In the following decades, the unifying euphoria for the innovations and comparatively good technical and infrastructural equipment of the housing estates gave way to a clearly differentiatied local-national discourses and varied approaches of adapting this segment of housing to accommodate larger societal changes. These include the liberalisation of housing policy and legal frameworks in West Germany and the collapse of the socialist systems in the East, demographic changes and migration, pluralisation and polarisation processes in space and society. The spatial-material, socio-structural, political-economic and symbolic structures of the modern neighbourhoods changed fundamentally. Today, the modern estates reflect highly differentiated development paths and situations, which are all too often discussed in a deficit-oriented manner. Nevertheless, the neighbourhoods have a lot of potentials regarding the urgent challenges of socio-ecological transformation we are facing. This paper aims at a new, unbiased and future-oriented look at the housing heritage of late modernism in Germany. Therefore, we explore the values currently attributed to this housing heritage, in particular the symbolic meanings and material-spatial features. Taking up a regional, i.e. East and West German comparative perspective, we discuss commonalities and specificities, which mirror both, the capitalist vs. socialist pasts of Germany and the experiences of incremental change vs. systemic break after the fall of the Berlin Wall. Based on these explorations, we discuss then the current approaches and difficulties of urban conservation to enhance (protect and

carefully develop) this modern housing heritage. We condense our analyses in two in-depth case studies: One is the West German settlement Nordweststadt in the town of Frankfurt/Main and the East German large housing estate of Gorbitz in the town of Dresden

Keywords

Heritage, Housing, planning, urban conservation, post-socialism

How to cite

Neugebauer, Carola; Harnack, Maren; "The Modern housing heritage of two German states – Exploring current heritage values and approaches of urban conservation". In Carola Hein (ed.), *International Planning History Society Proceedings*, 19th IPHS Conference, City-Space-Transformation, TU Delft, 5 - 6 July, 2022, TU Delft Open, 2022.

The Concept of the Socialist City
Plans and Patterns of Soviet Urbanism

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This paper discusses the specific features of the socialist city referring to the original ideas and intentions that were related to the foundation of socialist cities during Soviet Era. Planning and construction of socialist cites were embedded within the context of historical and social conditions that existed at the time. Soviet planners cited aspirations for the construction of large housing estates and new cities, such as the vision of a better person in a better society. These goals also opened up a view to an international debate: the search for a new city as a response to the unsuitable living conditions in the industrial city of the late nineteenth century. Urban planning and design in the Soviet Union was used as an instrument of ideology. Integrated within a system of state order, urban design played a political role. Hence the guiding principles for urban development emerged under certain preconditions, such as technical feasibility.

The paper emphasizes the visons and ideas, the urban guiding principles, and the physical structure and form of socialist cities.

Keywords

Soviet Cities, Sotsgorod, Urban Development, Urban Morphologies, Industrialisation, Microrayon

How to cite

Engel, Barbara; "The Concept of the Socialist City. Plans and Patterns of Soviet Urbanism". In Carola Hein (ed.), *International Planning History Society Proceedings*, 19th IPHS Conference, City-Space-Transformation, TU Delft, 5 - 6 July, 2022, TU Delft Open, 2022.

DOI: 10.7480/iphs.2022.1.6516

INTRODUCTION

The planning and construction of Soviet cities was embedded within the context of the historical and social conditions that existed at the time. Soviet planners cited aspirations for the construction of large housing estates and new cities, such as the vision of a better person in a better society and 'the rejection … of the city of capitalism, the slums, the inordinate luxury, and the appalling density'.[1] These goals also opened up a view to an international debate: the search for a new city as a response to the unsuitable living conditions in the industrial city of the late nineteenth century.

The Soviet period of urban development is characterised by three main phases, that are reflected in different urban morphologies and building typologies. The first period primarily continued pre-revolutionary planning ideas that applied, in particular, to low-rise settlements around industry or mining. The first five-year plan, started in 1928, marked the transition to industrialization and the emergence of a morphotype, which required decisions on the rapid construction of a large amount of housing. During this period, the idea of communal living was embodied in the morphology of the socialist city: utilitarian layout, prefabricated housing, dense low and mid-rise housing. A new stage of industrialization in 1954 affected housing construction and the emergence of a microrayon as a new morphotype that shaped the urban fabric of the cities in Soviet period and beyond.

VISIONS OF A NEW SOCIETY

Beginning in the early nineteenth century, the intolerable conditions endured in large cities repeatedly led to new proposals for social and urban planning reforms. In general, however, urban development lacked a genuinely social and economic perspective. Reformers like Charles Fourier and Robert Owen, who were known as 'Utopian Socialists', were the first to attempt to unite social and architectural ideas in their plans for building utopian communities. But these first attempts to improve the tenement city had no tangible effect. It was first and foremost the concepts of Ebenezer Howard, Frank Lloyd Wright, and Le Corbusier – with their utopian visions from the late nineteenth and early twentieth centuries – that earned a place in the history of urban design.

In the era of fast-paced technical upheavals, however, the ideas of urban planners who focused on social reforms were given new impetus. Against the backdrop of dawning technical progress, fascinating opportunities to change cities for the better began to open up in the minds of planners. The reformers did not want gradual improvement, but fundamental transformation that not only meant urban and spatial renewal, but also always involved a social aspect.

The Soviet debates at the outset of the twentieth century were first and foremost theoretical considerations about the fundamental relationship between town and countryside, and about reconfiguring how people lived and the resulting consequences for urban development.[2] This

discourse peaked at the end of the 1920s in Milyutin's design for Sotsgorod, and his concept later formed the basis for the designs of new towns. Milyutin's urban structure was given several functional areas that were strictly separated from one another.[3] Even if Milyutin's Sotsgorod was primarily a production centre, it was still to be constructed in such a way as to optimise the housing and living conditions of the workers. Milyutin understood the importance of green zones, clearly seen in the green buffer zones between the residential and industrial areas, but also in the park strips and public zones in the residential neighbourhoods.[4] The parallel strips made it possible for residents to travel short distances between home and work across a green belt. Social infrastructure, clubs, and sport facilities were located close to the residential quarters, far removed from industry.[5]

GUIDING URBAN PRINCIPLES AND THEIR PRECONDITIONS AND PARAMETERS

Urban design in the Soviet Union – like art and architecture as well – was used as an instrument of ideology. Integrated within a system of state order, urban design played a political role that was to be demonstrated on a social, structural, and visual level.[6] Hence, the guiding principles for urban development emerged under certain preconditions, such as technical feasibility, and above all subservient to political goals.

INDUSTRIALISED CONSTRUCTION

By 1953, the growing tensions between demands for an architecture that represented grandiose political ideals and the deteriorating conditions of daily life within the Soviet Union had already erupted in conflict. Following Stalin's death that same year, a reorientation of Soviet politics came about through Hrushchyov and the directives adopted in Moscow by the All-Union Conference of Builders, Architects, and Construction Industry Workers in December 1954. This was followed by a move towards the standardisation and industrialisation of construction under the motto of building 'better, faster, and cheaper'. The enormous demand for housing could only be met by equally enormous increases in the quantity and rate of production.[7] This marked the beginning of the use of prefabricated units.

This phase was characterised by the ever-increasing pace in the development of residential areas, and by the industrialisation and streamlining of construction methods. Through the introduction of highly-rational methods of planning and building cities, housing construction in the years 1955–1959 more than doubled over the previous five-year period, from 43 million square metres per year to 95 million square metres.[8] It was only on the basis of standardisation, creating types, and industrial mass production that the completion of large-scale building complexes became possible. What emerged was a new and characteristic architectural type that, in the uniformity of its built structures and constructional elements, reflected the buildings' new tectonics and a fundamental order inherent in the work that was brought about by industrial production.[9]

Fig. 1. Towards the Socialist City: Construction of the 3rd Micro-district in Ust-Ilimsk 1978.

The factors that influenced housing construction at the end of the 1950s continued on into the 1960s. The great demand for housing still made it necessary to build as much, as quickly, and as cheaply as possible. Economic interests determined the standard for the first-generation large-panel and large-block construction system and its essential criteria. The typologies of residential buildings changed according to the state of the art of industrial prefabricated construction. The number of floors of the buildings also increased commensurate with the technological development: 1963 saw construction of the first nine-storey buildings.[10] Thanks to these technical advances and the consequent ability to build higher, buildable land could be used more intensively. The quantitative possibilities offered by industrialised large-scale construction in the Soviet Union led to more than just a structural reconfiguration of the socialist city.[11] Furthermore, the political circumstances were important preconditions for urban planning and developments.

CENTRALISED ECONOMIC PLANNING

The centralised economic planning conducted by the state authority 'GOSPLAN' found its expression in a reallocation and redistribution of the production sites of industry and cities and in the resulting fundamental restructuring of the infrastructure.[12] The state ruled on the approval, execution, and financing of all urban development projects in the country. The USSR's State Committee for Construction (Gosstroj), which had subsidiaries in the Soviet Republics, was, together with the subordinate Committee for Civil Construction and Architecture (Gosgrazhdanstroj), responsible for the entire implementation of urban planning and architectural processes.[13] GOSPLAN determined if and when what measures were realised in the Soviet Union.

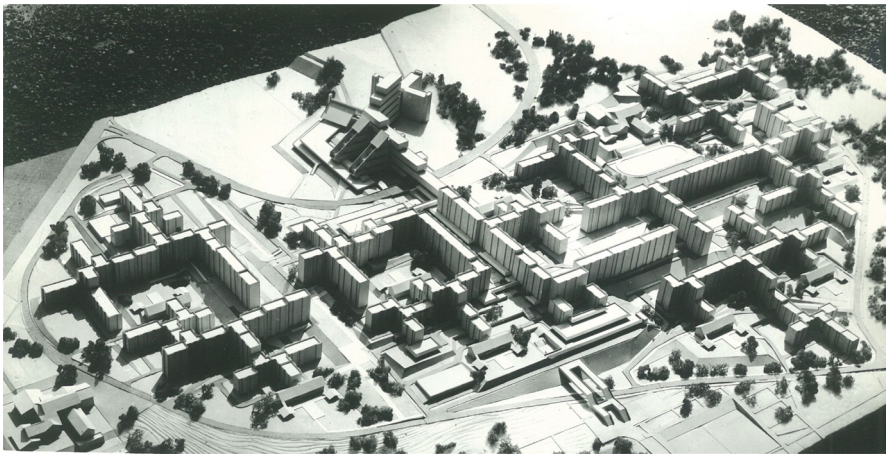

Fig. 2. Creating and Shaping new Neighborhoods: Model of Universitetskij, Irkutsk.

THE NATIONALISATION OF LAND OWNERSHIP

The basis for urban development in the socialist countries was formed by doing away with or greatly restricting private property. Already in the first half year of its existence, the Soviet government ordered the 'nationalisation' of industry, banks, foreign trade, and land. This changed the legal form of ownership, and private property was replaced by state property.[14] Land ownership was nationalised because, according to the Marxist theory, land had no intrinsic value. Not until the state availed of the land and had exceedingly simple access to large, contiguous building sites at appropriately selected locations did the realisation of complex architectural undertakings and many urban projects become possible.[15]

THE PLANNED ECONOMY

Another important precondition for urban planning was the economic order of the state-controlled planned economy that manifested itself in the Five-year Plans. Guided by politically motivated objectives, the state directed, steered, and controlled all economic processes in accordance with long-term plans. The planned economy had control over decisions pertaining to the planning and execution of all construction projects. Because the economy was planned, the nascent construction industry could rely on the continuity of building contracts handed out by the state as its client.

STATE-CONTROLLED HOUSING POLICIES AND THE HOUSING SECTOR UNDER STATE CONTROL

Urban planning was shaped by the economic interests of the state and did not always grow primarily from the needs and interests of a city. Thus, plans to expand industry, for example,

were carried out without taking into consideration deteriorating living conditions and the increasing environmental pollution. The cities had no legal means whatsoever for regulation or for asserting their own important concerns, interests, and wishes.

TOTALITY, UNITY, AND ENSEMBLE

The city should function as a social and functional unit[16] and constitute a system of functionally conceived and attractive residential and social ensembles.[17] The composition of the city should yield a clearly structured whole, both spatially and architecturally[18], that reflects the diversity of the activities and social relations of the residents, and which manifests their common bonds and the richness of urban life.[19] Under this concept, the urban ensemble had priority over architectural detail.[20] When developing large complexes, the architecture of the individual building was of secondary importance.[21] The most important aspect should be the entire spatial composition of the built fabric of streets and residential complexes as an integral whole.[22]

EFFICIENCY, STANDARDISATION, AND SIMPLICITY

In 1960, a resolution formulated that the main focus in urban planning and design would be placed on efficiency.[23] Simplicity, severity of form, and economical solutions were named as characteristic traits of Soviet architecture. Every 'obsession with decoration' was seen to contradict the socialist architectural style, whose traits should bear witness to a uniform, simple style both in the individual building and in the residential ensemble.[24] Individual design ambitions were to become less important than engineering technology on the basis of standardised construction elements that laid down restricted options for the design of buildings from the very outset. The standardisation of building types was seen in the urban ensemble as a sign of socialist construction, because it meant a renunciation of all individualism.

EQUALITY AND INTEGRATION

The socialist model of society negated class and cultural differences among people. The propagated 'uniform lifestyle' was also supposed to be reflected in the spatial order and the design of the cities. The spatial order of the cities was to support the social objective of doing away with or preventing class divisions and social differences and was to promote the integration of social groups, while socio-professional stratification in the city districts was to be avoided.[25] The individual neighbourhoods should not differ in their spatial structure and organisation, should not possess differences in location and quality, and should not underpin social differentiation with isolated neighbourhoods.[26] The results were city districts with a strictly hierarchical arrangement of identical residential types that made no allowance for individual design wishes (and therefore no individual wishes concerning lifestyle).

STRUCTURE AND FORM OF THE SOCIALIST CITY

The ideological and political stipulations ultimately found their expression in a basic hierarchical concept that addressed everything right down to the design of individual building typologies, the system of circulation, the organisation of open spaces, and so on. The Soviet city was supposed to support the 'manifestation and materialisation of the socialist way of life' in its function and its structure [27] and satisfy the cultural, material, and aesthetic needs of the entire population as comprehensively as possible.[28]In real terms, this structure entails painstakingly thorough organisation of the city at all levels of scale, which can also be seen in the system of the urban structure, which was laid out in a way that was strictly hierarchical and multi-levelled. It was reflected in an extensive system of binding governmental standards and regulations for the planning and construction of new cities in the USSR.[29] The organisational principle for structuring and guiding Soviet housing was the socialist residential complex as the embodiment of collective living.

A medium-sized city with approximately 200,000 to 250,000 inhabitants was based on the following tiered hierarchy:

- City
- Residential district: 20,000–60,000 inhabitants
- Residential complex (*microrayon*): 8,000–12,000 inhabitants
- Residential group (neighbourhood): 1,000–3,000 inhabitants

Each city consisted of individual residential areas, so-called residential districts in the magnitude of 20,000 to 60,000 inhabitants.[30] These, in turn, were made up of smaller units known as residential complexes with 4,000 to 20,000 inhabitants. Planning foresaw residential districts with a size of 30 to 60 hectares.[31] The smallest structural unit of the socialist city was the residential group with 1,000 to 3,000 inhabitants and a size of about 6 to 10 hectares.[32]

The goals of Soviet urban development were to supply the cities with work, living space, culture, and recreation.[33] These main stipulations for a city were expected to be reflected in its structure.[34] Thus the new cities were to comply with the principle of functional division that was outlined in the Athens Charter, which called for spatial separation of the principle functional areas in a modern city.[35] The workplaces were not integrated into the residential zones, but were concentrated at one location far from the living quarters. The residential districts were designed purely as bedroom communities, made up of so-called *spalny rayons* that dedicated purely to residential purposes.

The recreational functions were also removed from the areas of everyday life, such as the residential and work areas. The idea behind the functionally divided city not only assigned specific functions to individual neighbourhoods, but also separated the uses within them. This meant that each building accommodated specific functions: the residential buildings were exclusively residential, while the public facilities were manifested architecturally as special elements. The spatial separation of working, living, and shopping not only led to the need for an elaborate transport infrastructure, but also resulted in entire city districts being monofunctional in nature, as this meant that a mixture of functions and activities could not take place.

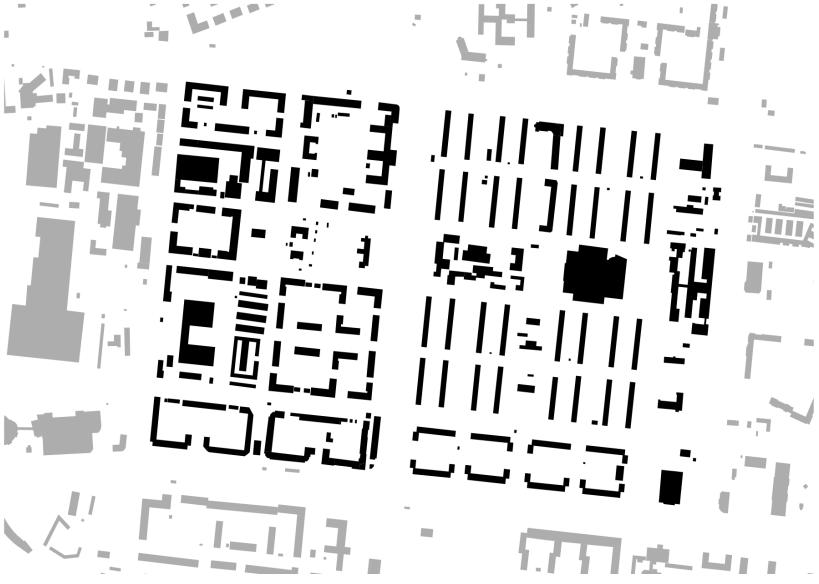

Fig. 3. Sotsgorod: Chelyabinsk Tractor Plant (ChTZ), planned 1929–1933, realized 1931–1950.

DEVELOPMENT PATTERNS AND BUILDING TYPES

The development was guided by the internationally accepted principle of functionalism, the guiding principle of the 'structured and spacious city interspersed with greenery'.[36] The Western principle of 'form follows function' also became the decisive criterion for the built forms of cities in the Soviet Union. Ornamentation of any kind was no longer aesthetically or ethically acceptable.[37] The still very limited technical possibilities of the early phase of industrialisation led in the initial stages of industrial housing production to the creation of standardised residential buildings with relatively simple forms that were employed frequently.[38]

Due to the short span lengths feasible with the prefabricated method of construction, the room sizes were limited, making it hardly possible to accommodate social facilities, shops, or service companies inside them without incurring high costs for the necessary constructive measures. This meant that buildings for residential purposes and buildings for civic purposes were physically separated, with the latter being housed in separate single-storey, flat-roofed buildings.[39] The facilities for cultural, social, and medical purposes, as well as shops, workshops, and schools were preferably distributed in standalone buildings.[40] Only a few small facilities that did not require isolated plots of land or independent structures, and which harmonised with the function of a residential building, were housed on the ground floor of those buildings.[41]

Fig. 4. Novokuznetsk. Competition in 1930, realized 1931–34.

OPEN SPACES

The planning concepts for public spaces in Soviet cities were certainly demanding in terms of design and diverse in what they offered. While the plans for urban centres may have sometimes been over-dimensioned – because it was not people, but a system with ideological notions and claims to power that determined the scale – and inappropriate for the sizes of the cities and the real demands and needs, the ideas for green spaces and streets are planning aspirations that can nevertheless be seen as quite positive, particularly for the quality of living and the fact that so much was accessible on foot.

In the tradition of Ebenezer Howard and his concept of the Garden City, the Soviet city was to be a city of gardens and parks, which was also evident in the planning objectives for the green spaces in the cities. The integration of nature in the urban structure was an essential part of the conceptual planning.[42] Green areas among the buildings of a residential complex were primarily intended to serve as a means for improving the microclimate, for noise abatement, and as an important design element. In 1955, the Council of Ministers of the USSR passed a resolution stipulating that 45 to 50 per cent of the settlement area was to be set aside for green spaces in the new cities, compared with 35 to 40 per cent in the old cities.[43] The norm for public green spaces was to be increased to 16 square metres per inhabitant by the year 1965.[44] This included the green spaces at the buildings and their gardens, as well as the park areas in the residential complex. A size of 8 to 9 square metres was planned for small sports fields and playgrounds for children outside of the facilities for children.[45] The green spaces included a residential district's

park, with an area of about 6 hectares, and the open spaces of a residential complex, as well as the buildable land earmarked for residential use, the boulevards and the greenery in the streets, the landscaped grounds of public buildings and administrative offices, those at schools, childcare facilities, and sanatoriums, sports fields, and green spaces adjoining industrial plants.[46] The system of parks was, as far as possible, to be designed in such a way that people living in the residential buildings had access to it from a distance of no more than 800 metres.[47]

CIRCULATION

Corridors joining the city were the first-order connecting roads, the 'arterial roads of urban importance'. This was followed in the hierarchy by the so-called arterial roads of *rajon* ('district') importance. These main thoroughfares served to connect individual residential districts and also provided a quick exit to the first-order corridors.[48] The arterial roads were supposed to connect the various parts of the city and represented the transportation artery between people's place of residence and the city's important sites, such as the railway station, industrial areas, central parks, and the stadium.[49] They were very generous, sometimes oversized; their proportions were appropriate not only for sufficient traffic flow, but were intended to emphasise their representative importance – especially in the city centre – so as to be able to accommodate demonstrations and political events.[50] Multiple lanes and large setback distances of sometimes more than 5 metres to the buildings often led to roadway cross sections of more than 40 or 50 metres.[51]

The third category included roads for local traffic within a microrayon, including the residential streets, that is, the connecting roads between separate groups of buildings; connecting roads that link pedestrian connections and roads within an industrial area that link individual storage areas; and finally access roads to individual buildings.[52] All through traffic should be kept outside of the residential quarter and the streets within the housing complex should only provide access to the residential area, which is why motor vehicle traffic on short, cul-de-sac-like roadways to garages, shops, and other facilities for the daily needs of the population should be provided for, namely in such a way that these transport routes do not intersect with the footpaths.[53]

DEMOGRAPHIC STRUCTURE

The popular opinion that the socialist system was a completely homogenous, 'classless society' in the cities must be contradicted. There were certainly differences in income as well as a diversity of ethnic groups.[54] However, the differences were not reflected in different neighbourhood structures, because all of the land belonged to the state and no individual had access to it.[55] It is therefore a unique feature of the socialist city that the phenomenon of ghettoisation did not exist.[56] Basically, the heterogeneous character of the social structure within a neighbourhood can be seen as a hallmark of the Soviet city.[57] The doctor lived next door to the teacher, and next door to the worker. Unlike in European and American cities, income had

relatively little influence on the allocation of dwellings. Soviet citizens were assigned a flat by the local authorities after they had applied for one.[58]

Building Structure, 2022 (by L. Klein)

Fig. 5. Mid-rise Microrayon Novo-Lenino, Irkutsk. Planned 1961–1970, realized 1965–1990.

Building Structure, 2022 (by L. Klein)

Fig. 6. High-rise Microrayon Komsomolskiy, Yekaterinburg. Planned 1977–85, realized 1980–85.

PHASES OF URBAN DEVELOPMENT

The Soviet period of urban planning is characterized by three phases: a) Pre-industrialization/ The avant-garde period, b) The Stalinist Period and c) Period of Mass Housing under Hrushchyov and Brezhnev. Their beginning is marked by three turning points: the transformational phase for the establishment of political and economic institutions (1917–1928), the extensive industrialization and the construction of new cities around the plants and mining places (1928–1953), and the modernization of mass housing construction (1954–1980).

In the first years of Soviet governance not much was built (due to the lack of resources after the Revolution) but the key goals for enforcing industrialization and surrounding housing for the growing urban population were formulated. At the same time, this is the time of unique experimental housing projects of a new type – avant-garde planning. With a start of the first 5-year plan in 1928 announcing the simultaneous construction of many new cities around new industrial centers, the development of a "standard planning unit" for sotsgorod, workers' settlements, housing estates, the first attempts at typification of housing series. In the field of urban planning policy, during this period there was a division into projects for large cities ("façade" projects) and projects for new industrial centers (cheap prefabricated houses, dormitories, barracks). The latter were the main place of residence for a large number of people till 1950s (and even later). From mid of 1950s wide industrialisation of housing construction and unification of the entire production process: from the development of standard series to commissioning. Modernist ideas in this period were on the rise, which made possible the emergence of the *microrayon* as a new planning unit and its spatial development until the end of the USSR.

CONCLUSION: THE FUTURE OF THE SOCIALIST CITY

Only parts of the basic ideological concept of the 'socialist city' were realised. As in all ideal cities, an expectation based on wishful thinking emerged in the socialist city too, and to what extent this was fulfilled has to be assessed separately for every city project that was realised.[59] First and foremost financial constraints, but also the lack of political power on the part of local authorities, a lack of technical know-how among the people involved, and problems in coordination between state planning authorities and the local institutions responsible for implementation may have led to many plans not being realised. In many cities, neither the generously dimensioned city centres nor magnificent main thoroughfares were built. Insufficient financial resources meant that in many cases, and well below the propounded expectations, the residential neighbourhoods were not supplied as intended with social and cultural infrastructure in the centres of the residential groups and complexes. The limited technical possibilities and the speed at which the buildings were constructed led to flaws in the execution of the building work that turned the cities into cases for rehabilitation within a very short period.[60] The existing shortage of funds exacerbated this process so that sometimes only 70 per cent, and in some cases only 50 per cent, of the planned cultural and recreational facilities

were realised.[61]

Socialist settlements in the former Soviet Union were one of the answers to the growing housing crisis of the 20th century the search for a new city as a response to the unsuitable living conditions in the industrial city of the late nineteenth century. In the time these cities were built, they were seen as forward-looking models in urban planning, considered results of progressive social housing planning, promising better life. Today, many of the cities and neighborhoods are often considered problematic quarters and have a great need for renewal. However, this heritage represents an enormous and valuable housing resource, particularly in growing conurbations. The utilisation of socialist cities requires innovative and practicable strategies and concepts. Promising approaches to solutions for sustainable redevelopment can only be developed through dialogue between academics and practitioners from the realms of politics, business, and civil society. Successful transformation can only be achieved on the basis of a deep understanding of the planning history and the conceptions relevant at the time when the housing estates were built. Hence, understanding of the socialist city has to go beyond the physical structures but to look at the planning ideas behind the visible form.

DISCLOSURE STATEMENT

No potential conflict of interest was reported by the author.

NOTES ON CONTRIBUTOR(S)

Barbara Engel is an architect and urban planner, since 2013 she is head of the chair for International Urbanism at Karlsruhe Institute of Technology. After receiving her PHD, she was teaching at TU Dresden, and was visiting professor at Kent State University in Ohio in 2007. From 2008 to 2013, she held a leading position at the City Planning Office in Dresden. Her research interests include urban developments in the USSR/Russia, and the MENA region, with a specific interest in open space and planning culture. She is a member of the Executive Board of the DASL and heads the design committees in Halle and Nuremberg.

ENDNOTES

1. Dolgij (1971), p. 1098
2. Han-Magomedov (1993), p. 20.
3. French (1995), p. 40.
4. Ibid.
5. Ibid.
6. Cf. Förster (1986), p. 127.
7. Ikonnikov (1988), p. 268.
8. Ivanova (1975), p. 564.
9. Cf. Krivov (1987), p. 34.
10. Trapeznikov p. 553.
11. Ikonnikov (1970), p. 97.
12. Rietdorf, Liebmann (1994), pp. 23.
13. Heumann (1972), p. 708.
14. Müller (2000), p. 40.
15. Bater (1980), p. 29.
16. Cf. Shkvarikov (1968), p. 455.
17. Kucherenko (1960a), pp. 61.
18. Galaktionov (1956), p. 163.
19. Cf. Belousov (1977), pp. 591.

20. Cf. Smolyar (1973), pp. 50.
21. Galaktionov (1956), p. 163.
22. Ibid.
23. Cf. Kucherenko (1960b), pp. 16.
24. Volodin (1961), p. 229.
25. Cf. Dolgij (1971), p. 1102.
26. Baburov (1954), p. 6.
27. Cf. Orlov (1970), p. 134.
28. Cf. Shkvarikov (1968), p. 454
29. Gosudarstvennyj komitet po grazhdanskomu stroitelstvu i architekture pri Gosstroe SSSR. Ministerstvo zhilishchnogo stroitelstva i gorodskogo razvitiya: SSHA (1984), p. 9.Leucht (1962), p. 154.
30. Cf. Sharanov (1957), p. 85.
31. Leucht (1962), pp. 154-155.
32. Smolyar (1973), p. 46.
33. Ibid. p. 46.
34. Cf. Kucherenko (1960), p. 23.
35. Cf. Kadatz (1997), p. 150.
36. Ikonnikov (1988), p. 269.
37. Krivov (1987), p. 34.
38. Cf. Karro et al. (1975), pp. 40–43.
39. Ivanova (1957), p. 573.
40. Ibid. p. 573.
41. Vinogradov, Dolganov, Korzhev, et al. (1960), p. 33.
42. Ibid.
43. Ibid.
44. Cf. Colden 1958.
45. Vinogradov, Dolganov, Korzhev, et al. (1960), p. 29.
46. Ibid. p. 31.
47. Galaktionov (1956), p. 163.
48. Gosudarstvennyj komitet (1964), p. 76.
49. Ibid. p. 83.
50. Ibid. p. 84.
51. Ibid. p. 76.
52. Ivanova (1957), p. 569.
53. French (1979), p. 97.
54. Ibid. p. 97.
55. Ibid. p. 90.
56. Lehmann, Ruble (1997), p. 1090.
57. Ibid. p. 1089.
58. Shaw (1991), p. 129.
59. Zhuravlyov (1983), p. 14.
60. Bater (1980), p. 117.

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IMAGE SOURCES

Fig. 1 Municipality Ust-Ilimsk.
Fig. 2 Municipality Irkutsk.
Fig. 3 Lara Klein, based on Google maps.
Fig. 4 Lara Klein, based on Google maps.
Fig. 5 Lara Klein, based on Google maps.
Fig. 6 Lara Klein, based on Google maps.

6 JULY: SESSION 3.2

STRATEGIES/ PLANNING.

Chair: Naoto Nakajima

Study on the planning strategy of small towns in Hengduan Mountain Area of Panxi in China from the perspective of resilient city theory

Weiwei Peng, Guotai Yan
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Abstract

In Hengduan Mountain Area of Western China, the disorderly construction and development of small towns inhabited by multi-ethnic groups severely interferes with the natural environment, resulting in frequent natural hazards in mountain area. How to reasonably deal with the contradiction between man and land has become a challenge for planning. Grounded in the context of resilient city theory, this paper proposes to build a planning framework of social-ecological-context resilience, to apply to Panxi small town planning. This paper analyzes the traditional ethnic settlements in Panxi area in detail: First discusses how the traditional settlement is based on the structure of natural environment, then further studies the structural characteristic and spatial evolution mechanism of traditional settlements, Finally arrives at the core meaning of social-ecological-context resilience of panxi traditional settlements. The core meaning of social-ecological-context of panxi traditional settlements consists of the following three parts: the foundation of local culture, natural ecological harmony and the formation of settlement community. Toward the end of this thesis, we arrives at the planning strategy of small towns in Hengduan Mountain Area of Panxi in China: First determines the rigid control boundary and flexible group of urban development, and then guides the resilience development of small towns in mountain area by type, level and time sequence at different stages of urban development.

Keywords

Resilient City, Small Town, Spatial Change, Planning Strategy

How to cite

Peng, Weiwei; Yan, Guotai; "Study on the planning strategy of small towns in Hengduan Mountain Area of Panxi in China from the perspective of resilient city theory". In Carola Hein (ed.), *International Planning History Society Proceedings*, 19th IPHS Conference, City-Space-Transformation, TU Delft, 5 - 6 July, 2022, TU Delft Open, 2022.

Weiwei Peng, Guotai Yan

Study on the planning strategy of small towns in Hengduan Mountain Area of Panxi in China from the perspective of resilient city theory

Reconsidering the Resilience of-Traditional Shopping Streets in Nuclear Power Plant-Affected Areas in Fukushima Based on Post-Disaster Realities

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Abstract

Ten years after the hydrogen explosion at the Fukushima Daiichi (1st) Nuclear Power Plant triggered by the March 11, 2011 earthquake, the evacuation orders have been lifted except for the difficult-to-return zones. Despite the government's goal of encouraging people to return home, the number of people returning is limited, and most communities have yet to regain their vitality. Tomioka, for example, is situated approximately 10 kilometers from the Fukushima Daiichi Nuclear Power Plant. Although the evacuation order for areas other than the difficult-to-return zones was lifted in April 2017, the number of registered residents is 12,066 (November 2021), and the number of residents inside Tomioka Town, including newcomers, is down to 4,500 (April 2021), which is approximately 37% of the number before the disaster. Tomioka Town is made up of 27 districts, which are traditional villages. Some of the districts along the coast used to produce salt, and the Fukushima Daini (2nd) Nuclear Power Plant, which started operation in 1975, is located there. The lowlands south of the city were rendered unusable by the tsunami caused by the Great East Japan Earthquake. The tsunami spared the coastal terraces north of the city center, but the evacuation order has not been removed due to serious radioactive pollution. Rice production has been the mainstay of the mountainous districts since the Edo era developed rivers and dams. In the center of Tomioka, the Rikuzen-hama Kaido, an old road connecting Edo (Tokyo) and Sendai passed through, creating a post town without planning and a concentration of administrative functions, and the Joban Line also passed through the area and it prospered. This is illustrated with a bird's-eye view from the 1920s. A land readjustment project was undertaken in the 1970s to develop residential neighborhoods, adjacent to the traditional post town, for nuclear power plant personnel and corporate sites, and the urban area expanded. As a result, there are two sorts of urban zones in Tomioka's center. One is the traditional shopping district along the old road, but few establishments have reopened after the evacuation order was lifted. Banks and other institutions like as a post office and a police station, on the other hand, have reopened in the extended urban area, and the construction of one-room dwellings proceeds apace. Workers

for the nuclear power plant's decommissioning are living in isolation, with no connection with outsiders. In this paper, we will focus on the historical shopping area in the central part of the city, and clarify what was lost due to the disaster. We believe that this will enable us to redefine resilience as well as the meaning of the built environment, which cannot be constructed by modern planning theory.

Keywords

Nuclear disaster, Fukushima, Post-disaster, Recovery, traditional street

How to cite

Kubota, Aya; "Reconsidering the Resilience of Traditional Shopping Streets in Nuclear Power Plant-Affected Areas in Fukushima Based on Post-Disaster Realities". In Carola Hein (ed.), *International Planning History Society Proceedings*, 19th IPHS Conference, City-Space-Transformation, TU Delft, 5 - 6 July, 2022, TU Delft Open, 2022.

Factors influencing post-earthquake reconstruction spatial transformations

An examination of the reconstruction of the historical centre in Venzone, Friuli region, Italy (1976–2006)

Tomoyuki Mashiko
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Abstract

Among all Italy's city reconstructions after earthquake disasters, only the 1976 Friuli earthquake reconstruction was completed among publicly funded projects. Numerous studies have been conducted on the lessons learned from policymaker and city planner perspectives, with some examining the mid-term reconstruction evaluations by using the Haas recovery and reconstruction model. However, few long-term evaluations have been conducted on the spatial transformation of historical centres. This study examined the spatial transformation of the historical centre in Venzone, which was one of the most earthquake affected settlements in the Friuli region. The evaluation of the reconstruction process revealed the influencing factors for the spatial post-earthquake reconstruction transformation process in Venzone's historical centre. To guide project implementation, the first influential factor was to define the primary streets and squares, to which reconstruction priority was given. The second factor was to have only one primary technician in charge of all design projects in one town block. The third factor was the appointment of an architect to prepare the reconstruction plan and act as the overall project coordinator. Those influential factors should be referenced in long-term planning in the earthquake reconstruction of Italian historical town centre.

Keywords

influential factor, protection regulation, intervention unit, spatial transformation, Italian post-earthquake reconstruction.

How to cite

Mashiko, Tomoyoki; "Factors influencing post-earthquake reconstruction spatial transformations: An examination of the reconstruction of the historical centre in Venzone, Friuli region, Italy (1976–2006)". In Carola Hein (ed.), *International Planning History Society Proceedings*, 19th IPHS Conference, City-Space-Transformation, TU Delft, 5 - 6 July, 2022, TU Delft Open, 2022.

DOI: 10.7480/iphs.2022.1.6752

INTRODUCTION

Every year, many countries need to address complex issues, many of which are related to recovery from catastrophic events, such as natural and anthropogenic disasters, for which post-disaster reconstruction planning is vital. Italy is one of the most disaster-prone countries in Europe, with earthquakes having regularly caused significant damage to small historical towns.[1] Since the late 1960s, most Italian historical centres have been under the protection of national town planning development and preservation regulations.[2] Therefore, post-earthquake reconstruction can be extremely complex, with the spatial planning projects taking a long time to implement. The National Council of Engineers reported that the 1976 Friuli earthquake reconstruction was publicly funded and only this reconstruction case was completed in 2006.[3]

Some reconstruction studies have been conducted from policymakers' and city planners' perspectives and others have had general discussions on the lessons learned.[4] For example, Norsa[5] analysed the government's response to emergencies, such as the construction of temporary housing and private sector restoration projects three years after the Friuli earthquake disaster and found that in contrast to the failure to recover from the 1968 Belice earthquake, the Friuli earthquake recovery was a good example of the sequencing of emergency reconstruction situations into longer-term planning processes. Some research has also focused on mid-term evaluations by using the Haas recovery and reconstruction model.[6] For example, Hogg[7] examined the reconstruction and revitalisation process in the historical centre of Venzone and surrounding settlements and found similarities between the process in Venzone and Haas' theoretical process model. In contrast to Hogg's study, Alexander[8] reviewed practices in the historical small settlements affected by the 1968 Belice and 1980 Irpinia earthquakes and concluded that existing reconstruction models built on experiences in towns with different regional characteristics, such as the United States, could not be adapted to small historic settlements in Italy.

Although there is not yet any unified view on the applicability of theoretical models, less research has focused on long-term evaluations of the spatial transformation of historical centres after the 1976 Friuli earthquake, and been few Italian case studies have been conducted on the factors influencing the reconstruction processes. Therefore, this study examined the specific factors associated with the reconstruction of Venzone's historical centre, which was one of the most affected settlements in the Friuli region, which is located in northeastern Italy. Prior to the earthquake, the Venzone historical centre had been registered and protected as a national cultural heritage without the need for any ordinary planning approvals, such as the "*Piano Regolatore Generale*" and the "*Piano Particolareggiato*." In 1976, Venzone had a population of approximately 3,000; however, in 1976, its historical centre was devastated by two major earthquakes, one on May 6 and another on September 15, which destroyed almost all the buildings and forced a majority of its citizens to take temporary refuge along the Adriatic Sea.

To examine the spatial transformation of Venzone's historical centre, this study evaluated the reconstruction projects for each intervention, for which the following methodology was adopted. First, with a focus on government-led and bottom-up processing protocols, a literature survey was conducted to verify Venzone's overall reconstruction process. Second, the essential characteristics of Venzone's reconstruction plans, such as the building typology and

intervention categories and units, were reviewed. Third, the timing of the project approvals, construction initiation, and completion of each unit was examined. Finally, based on results, the post-earthquake reconstruction factors influencing the spatial transformation process in the historical centre in Venzone were identified.

GOVERNMENT-LED AND BOTTOM-UP PROCESSING PROTOCOLS FOR VENZONE'S RECONSTRUCTION PROCESS

The National Council of Engineers reported in 2016 that all publicly funded projects had been completed in 2006 after the 1976 Friuli earthquake.[9] To understand the overall reconstruction process in Venzone, based on the literature survey, this section examines the two protocols and classifies them into a timeframe. The first government-led protocol had four primary phases.

Decree Law no.13 of May 13, 1976, which was enacted by the central government, outlined the basic policy for the emergency response,[10] which was followed by Regional Law no.33 of July 21, 1976, which outlined the policy for the temporary housing site developments.[11] Following this, on August 2, the Venzone Town Council approved the temporary settlement site selection for the building of the prefabricated houses, after which construction started.[12] After the second earthquake on September 15, 1976, the victims were evacuated to accommodations along the Adriatic Sea until the end of December 1976 and from January 1977 onward, they were moved into the completed temporary housing.[13]

By the end of January 1977, all temporary settlement construction projects had been completed. Regional Law no. 30 of 20 June 1977 established the provisions for the restoration of the buildings in the historical centre,[14] and Regional Law no.63 of 23 December 1977 established the provisions for the preparation of a detailed district plan for the historical centre reconstruction.[15] It was further decided that Venzone's entire historical centre, which had been listed as a national cultural heritage site in 1965, would continue to be listed as a national cultural heritage site because restoring the devastating damage by using remaining material was deemed possible.[16] Therefore, on 6 December 1977, the National Cultural Heritage Committee presented the guidelines for Venzone's reconstruction.[17]

Following the National Cultural Heritage Committee guidelines and the enactment of Regional Law no.63, in January 1978, the Venzone Municipality started preparing a detailed district plan for the historical centre reconstruction.[18] Starting in August 1976, the International Council on Monuments and Sites and the Italian Ministry of Cultural Heritage and Environment started a historical survey of Venzone's historical centre, the report for which was delivered in September 1978.[19] These survey materials and reports were therefore referred to in a detailed district plan for the historical centre reconstruction, which was approved by the Town Council on 23 April 1980.[20]

Following the approval, the reconstruction design projects were drawn up for each joint project area, with the first design project being approved by the Town Council on 31 December 1981, after which the construction began.[21] Most projects had been completed by the end of

December 1988, with all others being completed by November 1993.[22] Redevelopment work to convert the temporary settlements established during the emergency response period into residential areas or green spaces began after August 1988.[23]

Secondly, as noted bellow, three primary phases were mentioned in the bottom-up processing protocols. The '*Amici di Venzone*', a civic organisation for the protection and study of the historical and artistic heritage of Venzone, had been active from its foundation in 1971.[24] The '*Comitato di Coordinamento per il Recupero dei Beni Culturali*', an autonomous organisation, was established to protect the cultural heritage by volunteer citizens of Venzone and architects, restorers, historians, and archaeologists from all over Italy after the first earthquake occurred.[25] In July 1976, the organisation put forward an action plan to the municipal government to recover and protect the building materials from the damaged cultural heritage,[26] which was approved after the second earthquake on 15 September 1976. Consequently, from September 1976, work began on transporting, organising, and numbering the cultural heritage building materials.[27]

The Venzone citizens who had taken refuge in the accommodations along the Adriatic returned to the temporary settlements around the historical centre in January 1977.[28] Therefore, on 28 February, the municipality government destroyed the collapse-proof wooden frames of the buildings facing one street in the historical centre, which prompted the citizens of Venzone to establish a citizens' council on 19 March termed the '*Comitato 19 Marzo*' to discuss the historical centre reconstruction and disseminate information to the evacuees in the temporary housing and throughout Italy through the local newspaper, *Cjase Nestre*.[29] Under the slogan '*Dov'era e Com'era* (where it was, how it was)', the citizens' council, which was seeking to restore the historical centre to its original location, organised a petition, which was presented to the regional government and the national Ministry of Cultural Heritage and Environment on 20 August.[30] Subsequently, in December 1977, the national cultural heritage commission, the '*Consiglio Nazionale dei Beni Culturali*', recognised that the historical centre of Venzone should remain a national cultural heritage monument and approved a reconstruction guideline to restore the historical centre.[31]

When the reconstruction guideline request was approved, the '*Comitato 19 Marzo*' continued to publish its local newspaper to advise people on the reconstruction, and the '*Amici di Venzone*' was also active during the reconstruction project and published activities reports at the end of each year.[32]

The government-led and bottom-up protocols for Venzone's reconstruction process were divided into phases based on the literature survey. Figure 1 shows the overall picture of these four phases, integrating the above described two protocols.

- Phase I (1976.5-1976.12): Emergency response and heritage protection start-up phase
- Phase II (1977.1-1977.12): Evacuation and heritage restoration policy request phase
- Phase III (1978.1-1980.4): Planning and heritage restoration status sharing phase
- Phase IV (1980.5-1993.11): Project implementation and heritage restoration status sharing phase

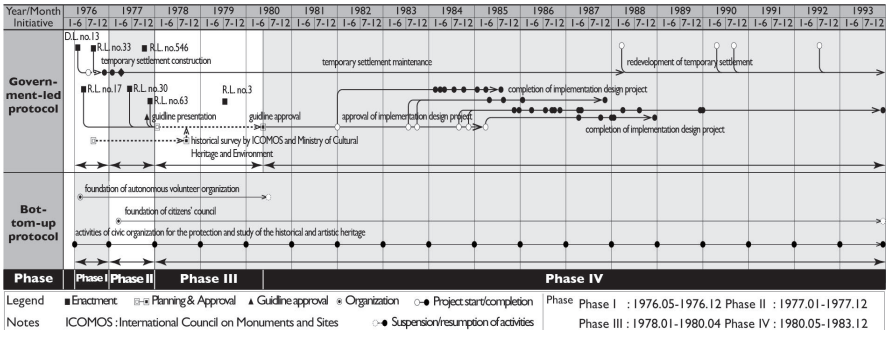


Fig. 1. Venzone's four-phase reconstruction process. Source: Author.

Following the heritage protection efforts initiated in Phase I, restoration requests were approved in Phase II, and the historical centre reconstruction planning and project implementation was instigated in Phase III. This study conducted a detailed analysis of the project approval, construction, and completion timing to clarify the spatial transformation of the historical centre from Phase IV onwards, which involved the design project implementation.

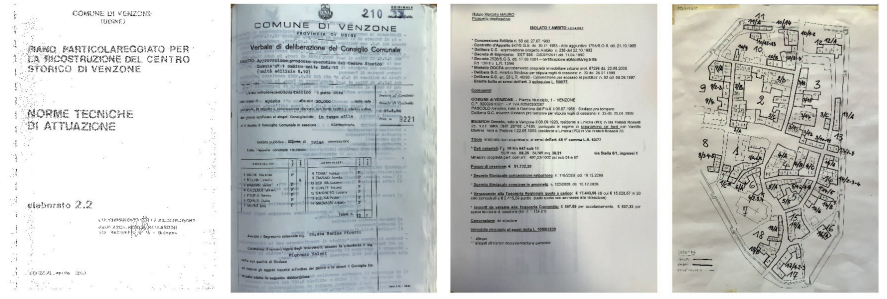


Fig. 2. Original documents referred to. Source: Venzone Municipal archives.

ESSENTIAL CHARACTERISTICS OF VENZONE'S RECONSTRUCTION PLAN

The previous section identified the overview of the historical centre spatial transformation. With the development of the reconstruction guidelines and detailed district plans, it was assumed that the basic preconditions for the spatial transformation were in place. Therefore, this section gives an overview of the essential features of the reconstruction plans based on the original documents from the Venzone Town Hall archive. Figure 2 shows some of the original documents that were consulted; the technical implementation rules, town council minutes, documents related to the project construction starts and completions, and diagram of the unitary intervention areas that had been completed. Moreover, Figure 3 illustrates typological classification and operational reconstruction plan with the intervention categories.

Fig. 3. Typological classification (left) and operational reconstruction plan with the intervention categories (right). Source: Venzone Municipal archives.

Table 1 summarises the key technical terms relevant to the spatial transformation analysis. As seen from the typological class and unitary intervention areas, the detailed district plan for the historical centre reconstruction was based on a typological architectural survey analysis. Given these definitions, the typological classes defined the individual building characteristics for the intervention.

The Venzone historical centre typological classes summarised were divided into nine principal classes from class 1 to class 9, with classes 1, 3, and 4 each having two subclasses. Although an explanation of the individual classes was omitted, from the original classes and their time transformations, the historical centre buildings had nine primary characteristics before the earthquake.

General Provisions	Definition
1. Building Unit [EN] Unità Edilizia [IT]	Complex consisting of the body of the building, distinguishable from the adjacent ones, and the uncovered area connected to it, the parts of which are organised in a unitary manner for the purposes of the intervention under the various aspects of distribution, function, style, typology, etc., presenting characters of architectural individuality verified through the critical study of the processes of formation and historical transformation
2. Typological Class [EN] Classe Tipologica [IT]	Homogeneous area to which building units with the same typological scheme are allocated for the purposes of intervention
3. Building Type [EN] Tipologia Edilizia [IT]	Specific spatial organisation in which the constituent elements are governed by precise relationships according to repeated typical patterns
4. Unitary Building Aggregation [EN] Aggregazione Edilizia Unitaria [IT]	Complex made up of buildings and open areas where an identifiable process of complex formation and transformation has developed from the original building units
5. Intervention Unit [EN] Unità d' Intervento [IT]	Complex consisting of buildings and open spaces including, according to typological complexity, one or more building units
6. Unitary Area of Intervention [EN] Ambito Unitario di Intervento [IT]	Building complex that includes one or more intervention units in a complete way, generally endowed with functional autonomy and resulting from a comprehensive transformation process

Table 1. Definitions for the key technical terms. Source: Based on Norme Techniche di Attuazione (1980).

Typological Classification

No.	Type	Name of Class
Class1	Main	Building unit with a single-lot terraced building type of layout
Class1.1	Sub	Building unit belonging to basic class 1. with the variant of the staircase arranged (inside-outside) in the rear front
Class1.2	Sub	Building unit of base class 1. with the variant of the staircase arranged in line next to the back wall
Class2	Main	Building unit with single lot terraced building conversion type
Class3	Main	Building unit with conversion type of double lot terraced building in line
Class3.1	Sub	Building unit with conversion type of terraced building on double plot
Class3.2	Sub	Building unit with in-line transformation type
Class4	Main	Building unit with type of planting and transformation/organic growth of courtyard building
Class4.1	Sub	Building unit belonging to basic class 4. with the variant of double facing
Class4.2	Sub	Building unit belonging to basic class 4. with the variant of single facing
Class5	Main	Building units of monumental layout
Class6	Main	Building unit with typical 19th and 20th century transformation typology
Class7	Main	Building unit with unidentifiable typology
Class8	Main	Buildings existing at the Napoleonic Cadastre and unbuilt in 1976 or built in that period but not consistent with the morphological and typological organisation of historical centre
Class9	Main	Newly built building now existing

General Categories of Intervention

No.	Object	Name of Category
Category A	Building body	Reconstruction with predominant restoration
Category B	Building body	Reconstruction with predominant reinstatement
Category C	Building body	Reconstruction with typological and philological reinstatement
Category D	Building body	Reconstruction with rationalisation of existing building layout
Category E	Building body	Reinstatemente of release
Category F	Building body	New building with planivolumetric prescriptions
Category G	Building body	Existing buildings that can be converted with planivolumetric prescriptions

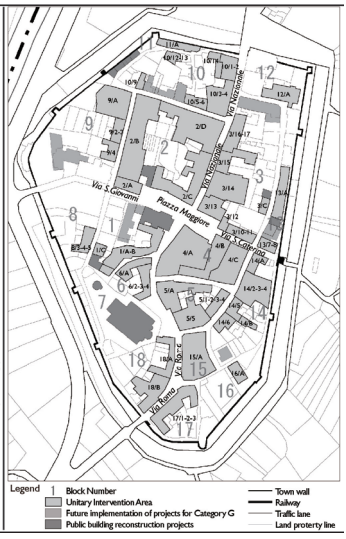


Fig. 4. Typological classifications (upper left) and intervention categories (lower left) for Venzone's historical centre. Location of unitary intervention area, street and plaza (right) in historical centre. Source: Venzone Municipal archives.

The intervention categories for each unit were defined in the operational reconstruction plan based on the typological classifications and were divided into general and specific intervention categories. The general categories defined the provisions for the implementation of the architectural plans, building works, and external space developments and were divided into two categories: one that targeted buildings and the other that targeted the spaces. The sub-category targeting the buildings was assumed to have a significant influence on the start and completion of the project construction.The category targeting the buildings was divided into a further seven sub-categories from A to G. Sub-categories A, B and C had higher protection regulations than the other categories, sub-category D was for reconstruction based on a reasonable judgement of the existing building system. Sub-category E was for the demolition and non-reconstruction of the remaining parts of the defined buildings. Sub-category F was focused on areas in the planovolumetric survey wherein the reconstruction was based on a typology survey. Therefore, three categories were focused on building types that had been the most updated before the earthquake. Sub-category G included buildings that had been newly constructed and remained standing, with the provisions in sub-category F applying to future reconstruction.

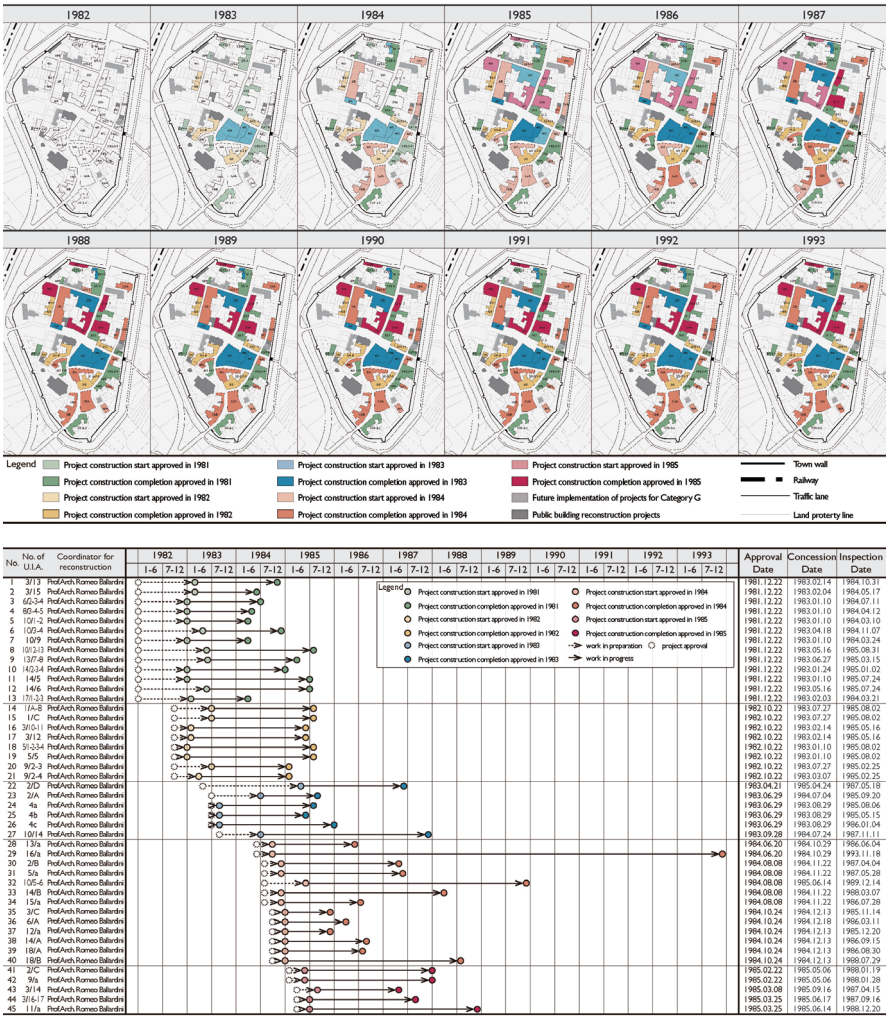
In addition to the building regulations described thus far, the technical rules also included guidance provisions to facilitate project implementation. Each project intervention was considered within the unitary project for the complete block and thus required unitary project block approval. The unitary implementation was conducted in phases based on the annual programme prepared and coordinated by the Municipal Office historical centre; therefore, no secondary building units could be constructed if the corresponding main building units had not been completed. The reconstruction was organised organically, with the first projects

No. of block	No. of U.I.A.*3	Name of Appointed Technician/Project Designer	Name of Cooperative per Project	No. of Property*4	General Categories of Intervention	Approval Date	Main Street and Square facing*1
1	1/A-B	Arch. Maurizio Brufatto	BORC DAL PALAC	n.a.	A,C,D	1982.10.22.	n.a.
1	1/C	Arch. Maurizio Brufatto	n.a.	n.a.	D	1984.08.08.	n.a.
2	2/A	Prof. Arch. Gino Valle	TRIFORA	3	C,D,E	1983.06.29	Piazza Maggiore, Via S.Giovanni
2	2/B	Prof. Arch. Gino Valle	TRIFORA	n.a.	A,B,C,D,E	1984.08.08	n.a.
2	2/C	Prof. Arch. Gino Valle	TRIFORA	11	B,C,D,E	1985.02.22	Piazza Maggiore, Via Nazionale
2	2/D	Arch. Maurizio Brufatto	n.a.	n.a.	B,C,D	1983.04.21	Via Nazionale
3	3/10-11	Arch. Francesco Doglioni	PALAZZO ORGNAMI-MARTINA	2	C	1982.10.22	Via S.Caterina
3	3/12	Arch. Francesco Doglioni	PALAZZO ORGNAMI-MARTINA	1	C,D,E	1982.10.22	Piazza Maggiore, Via S.Caterina
3	3/13	Arch. Francesco Doglioni	PALAZZO ORGNAMI-MARTINA	5	C,D	1981.12.22	Piazza Maggiore, Via S.Caterina
3	3/14	Arch. Francesco Doglioni	PALAZZO ORGNAMI-MARTINA	n.a.	B	1985.02.22	Via Nazionale
3	3/15	Arch. Francesco Doglioni	PALAZZO ORGNAMI-MARTINA	2	B	1981.12.22	Via Nazionale
3	3/B	Arch. Francesco Doglioni	n.a.	1	D	1985.03.25	Via Nazionale
3	3/C	Arch. Francesco Doglioni	n.a.	1	C,E	1984.10.24	n.a.
4	4/A	Studio Conti e Associati	SU SU VENZONE	14	B,C,D,E	1983.06.29	Piazza Maggiore
4	4/B	Studio Conti e Associati	SU SU VENZONE	8	C,D	1983.06.29	Piazza Maggiore, Via S.Caterina
4	4/C	Studio Conti e Associati	SU SU VENZONE	3	B	1983.06.29	Via S.Caterina
5	5/1-2-3-4	Dott. Arch. LORIS Sormani	BORC DAL LAT	4	C,E	1982.10.22	n.a.
5	5/5	Dott. Arch. LORIS Sormani	BORC DAL LAT	4	B	1982.10.22	n.a.
5	5/A	Dott. Arch. LORIS Sormani	BORC DAL LAT	6	B,C,D,E	1984.08.08	n.a.
6	6/2-3-4	Arch. Maurizio Brufatto	BORC DAL PALAC	4	D,G	1981.12.22	n.a.
6	6/A	Arch. Maurizio Brufatto	n.a.	4	C.D	1984.10.24	n.a.
7	n.a.	n.a.	n.a.	n.a.	B,C	n.a.	n.a.
8	8/A	Arch. Maurizio Brufatto	n.a.	2	C,F	1987.01.31	Via S.Giovanni
8	8/3-4-5	Arch. Maurizio Brufatto	BORC DAL PALAC	10	D,E	1981.12.22	n.a.
9	9/A	Dott. Arch. Carlo Santamaria	SAN GIOVANNI	9	B,E	1985.02.22	n.a.
9	9/2-3	Dott. Arch. Carlo Santamaria	SAN GIOVANNI	4	C,E	1982.10.22	n.a.
9	9/4	Dott. Arch. Carlo Santamaria	SAN GIOVANNI	1	B,C,E	1982.10.22	n.a.
10	10/1-2	Arch. Francesco Doglioni	TORI FORS	3	C,D,E	1981.12.22	Via Nazionale
10	10/3-4	Arch. Francesco Doglioni	TORI FORS	4	B,C,D,E	1981.12.22/1982.10.22	Via Nazionale
10	10/5-6	Arch. Francesco Doglioni	n.a.	2	D,F	1984.08.08/1984.10.24	n.a.
10	10/9	Arch. Francesco Doglioni	TORI FORS	2	D	1981.12.22	n.a.
10	10/12-13	Arch. AIGUSTO ROMANO Bureli	LI Muris	3	D,E,G	1982.01.11	n.a.
10	10/14	Arch. AIGUSTO ROMANO Bureli	LI Muris	n.a.	D	1983.09.28	n.a.
11	11/A	Arch. AIGUSTO ROMANO Bureli	LI Muris	5	D	1985.03.25	n.a.
11	11/5-6-7	Arch. AIGUSTO ROMANO Bureli	LI Muris	3	C	1981.12.22	n.a.
12	12/A	STUDIO TECNICO S.T.P.G. etc.*2	n.a.	15	C,D	1984.10.24	n.a.
13	13/A	Arch. Degan Bianchet Alfonso	BARBACANE	6	A,C,D,F	1984.07.25	n.a.
13	13/7-8	Arch. Degan Bianchet Alfonso	BARBACANE	2	C	1981.12.22	Via S.Caterina
14	14/A	STUDIO TECNICO S.T.P.G. etc.*2	BARBACANE	7	C,E	1984.10.24	Via S.Caterina
14	14/2-3-4	STUDIO TECNICO S.T.P.G. etc.*2	BARBACANE	5	B,C,D,G	1983.11.03	n.a.
14	14/5	STUDIO TECNICO S.T.P.G. etc.*2	BARBACANE	3	C,D	1981.12.22	n.a.
14	14/B	STUDIO TECNICO S.T.P.G. etc.*2	BARBACANE	4	D	1984.08.08	n.a.
14	14/6	STUDIO TECNICO S.T.P.G. etc.*2	BARBACANE	2	C,D	1981.12.22	n.a.
15	15/A	Arch. SIMONITTI Valentino	BORC DAL LAT	5	C,D,E	1984.08.08	Via Roma
16	16/A	Dott. Arch. Maria TAMBURINI	S. Caterina	1	E,F	1984.06.20	n.a.
17	17/1-2-3	Dott. Arch. Maria TAMBURINI	S. Caterina	8	C,D,E	1981.12.22	Via Roma
18	18/A	Arch. SIMONITTI Valentino	BORC DAL LAT	n.a.	D,E	1984.10.24	Via Roma
18	18/B	n.a.	n.a.	n.a.	C,D	1984.10.24	Via Roma

NOTE *1 Main streets and square are defined as Via Nazionale, Via Roma and Via S.Giovanni, Piazza Maggiore, Via S.Caterina. *2 STUDIO TECNICO S.T.P.G., PITTERI Graziano, PIRZIO BIROLI
*3 Unitary Intervention Area *4 Refering to the owner of the building, not the land.

Table 2. Essential Characteristics of the unitary intervention areas. Source: Based on Piano Operativo della Ricostruzione (1980) and Verbale di deliberazione del Consiglio Comunale.

implemented being the buildings lining the primary streets and the square, such as *Via Nazionale*, *Via Roma*, *Via S.Giovanni*, *Piazza Maggiore*, and *Via S.Caterina*. The final discussion in this study considers the influence of the physical preconditions for implementing the guidance preconditions on the spatial transformation process.



No.	No. of U.I.A.	Coordinator for reconstruction	Approval Date	Concession Date	Inspection Date
1	3/13	Prof.Arch.Romeo Ballardini	1981.12.22	1983.02.14	1984.10.31
2	3/15	Prof.Arch.Romeo Ballardini	1981.12.22	1983.02.04	1984.05.17
3	6/2-3-4	Prof.Arch.Romeo Ballardini	1981.12.22	1983.01.10	1984.07.11
4	8/0-4-5	Prof.Arch.Romeo Ballardini	1981.12.22	1983.01.10	1984.04.12
5	10/1-2	Prof.Arch.Romeo Ballardini	1981.12.22	1983.01.10	1984.03.10
6	10/3-4	Prof.Arch.Romeo Ballardini	1981.12.22	1983.04.18	1984.11.07
7	10/9	Prof.Arch.Romeo Ballardini	1981.12.22	1983.01.10	1984.03.24
8	10/12/13	Prof.Arch.Romeo Ballardini	1981.12.22	1983.05.16	1985.08.31
9	13/7-8	Prof.Arch.Romeo Ballardini	1981.12.22	1983.06.27	1985.03.15
10	14/3-4	Prof.Arch.Romeo Ballardini	1981.12.22	1983.01.24	1985.01.02
11	14/5	Prof.Arch.Romeo Ballardini	1981.12.22	1983.01.10	1985.07.24
12	14/6	Prof.Arch.Romeo Ballardini	1981.12.22	1983.05.16	1985.07.24
13	17/1-2-3	Prof.Arch.Romeo Ballardini	1981.12.22	1983.02.03	1984.03.21
14	1/A-B	Prof.Arch.Romeo Ballardini	1982.10.22	1983.07.27	1985.08.02
15	1/C	Prof.Arch.Romeo Ballardini	1982.10.22	1983.07.27	1985.08.02
16	3/10-11	Prof.Arch.Romeo Ballardini	1982.10.22	1983.02.14	1985.05.16
17	3/12	Prof.Arch.Romeo Ballardini	1982.10.22	1983.02.14	1985.05.16
18	5/1-3-4	Prof.Arch.Romeo Ballardini	1982.10.22	1983.01.10	1985.08.02
19	5/5	Prof.Arch.Romeo Ballardini	1982.10.22	1983.01.10	1985.08.02
20	9/2-3	Prof.Arch.Romeo Ballardini	1982.10.22	1983.07.27	1985.02.25
21	9/2-4	Prof.Arch.Romeo Ballardini	1982.10.22	1983.03.07	1985.02.25
22	2/D	Prof.Arch.Romeo Ballardini	1983.04.21	1985.04.24	1987.05.18
23	2/A	Prof.Arch.Romeo Ballardini	1983.06.29	1984.07.04	1985.09.20
24	4a	Prof.Arch.Romeo Ballardini	1983.06.29	1983.08.29	1985.08.06
25	4b	Prof.Arch.Romeo Ballardini	1983.06.29	1983.08.29	1985.05.15
26	4c	Prof.Arch.Romeo Ballardini	1983.06.29	1983.08.29	1986.01.04
27	10/14	Prof.Arch.Romeo Ballardini	1983.09.28	1984.07.24	1987.11.11
28	13/a	Prof.Arch.Romeo Ballardini	1984.06.20	1984.10.29	1986.06.04
29	16/a	Prof.Arch.Romeo Ballardini	1984.06.20	1984.10.29	1993.11.18
30	2/B	Prof.Arch.Romeo Ballardini	1984.08.08	1984.11.22	1987.04.04
31	5/a	Prof.Arch.Romeo Ballardini	1984.08.08	1984.11.22	1987.05.28
32	10/5-6	Prof.Arch.Romeo Ballardini	1984.08.08	1985.06.14	1989.12.14
33	14/B	Prof.Arch.Romeo Ballardini	1984.08.08	1984.11.22	1988.03.07
34	15/a	Prof.Arch.Romeo Ballardini	1984.08.08	1984.11.22	1986.07.28
35	3/C	Prof.Arch.Romeo Ballardini	1984.10.24	1984.12.13	1985.11.14
36	6/A	Prof.Arch.Romeo Ballardini	1984.10.24	1984.12.18	1986.03.11
37	12/a	Prof.Arch.Romeo Ballardini	1984.10.24	1984.12.13	1985.12.20
38	14/A	Prof.Arch.Romeo Ballardini	1984.10.24	1984.12.13	1986.09.15
39	18/A	Prof.Arch.Romeo Ballardini	1984.10.24	1984.12.13	1986.08.30
40	18/B	Prof.Arch.Romeo Ballardini	1984.10.24	1984.12.13	1988.07.29
41	2/C	Prof.Arch.Romeo Ballardini	1985.02.22	1985.05.06	1988.01.19
42	9/b	Prof.Arch.Romeo Ballardini	1985.02.22	1985.05.06	1988.01.28
43	3/14	Prof.Arch.Romeo Ballardini	1985.03.08	1985.09.16	1987.04.15
44	3/16-17	Prof.Arch.Romeo Ballardini	1985.03.25	1985.06.17	1987.09.16
45	11/a	Prof.Arch.Romeo Ballardini	1985.03.25	1985.06.14	1988.12.20

Fig. 5. Spatial transformation process focused on the construction start and completion (top: visualisation on map) (bottom: visualisation on the bar chart). Source: Based on Progettazione Esecutiva, Verbale di deliberazione del Consiglio Comunale and Documento di Concessione e Collaudo.

CONDITIONS FOR THE SPATIAL TRANSFORMATION WITH A FOCUS ON PROJECT IMPLEMENTATION

Each unitary intervention area or project implementation unit had characteristics in line with the physical and guidance preconditions. Table 2 summarises the key features of the unitary intervention areas and lists the 48 unitary intervention areas[33] for the 18 blocks. Technicians were appointed to each block and most projects were cooperative. The unitary intervention

categories were extremely diverse, with less than half facing the main streets and squares as defined in the technical rules.

The unitary intervention areas were arranged in the same order as the Town Council project approvals, with the spatial transformation process being visualised using maps and graphs as shown in Figure 5. As mentioned in the implementation regulations set out in the technical rules, the implementation project approvals were granted over a five-year period from 1981 to 1985 as outlined in Figure 5. By 1985, construction on all implementation projects had started, with the final project being completed at the end of 1993. Most projects that started early were facing *Piazza Maggiore*, *Via S.Caterina*, and *Via Roma* (note; the projects that had already started in 1984). This trend was further observed in the projects completed early (note; projects completed in 1986). Half the projects facing *Via Nazionale* were started in 1983; however, as no construction was started in 1984, all projects started in 1985. Therefore, all projects along this street were completed in 1988, thereby confirming the discrepancies with the implementation-related guidance precondition. As the preparation of the annual programme, the project approvals, permissions to start construction, and project completion inspections were coordinated by *arch. Romeo Barardini*, who was a professor at the University of Bologna, had been assumed to be the planner for the detailed district reconstruction plan and had played an important role in ensuring the reconstruction quality by ensuring that the strict preconditions were complied with.

CONCLUSION

This study examined the influential factors for the spatial transformation in the post-disaster earthquake reconstruction process. It evaluated the project implementation conditions associated with Venzone's spatial transformation of its historical centre. Based on the detailed understanding of the project approval, construction start, and completion processes and accounting for the essential physical and guidance preconditions in each unitary intervention area, three factors were found to influence the earthquake reconstruction process.

To guide the project implementation, the first factor was prioritising the main streets and squares, which was stipulated in the technical rules associated with the implementation regulations specifying the inductive preconditions. The visualisation of the spatial transformation process revealed that some projects facing some streets and squares were started and completed early, which was a crucial factor. By focusing on the revitalisation of the main streets and squares, which were the primary social and economic activity centres, the lives and livelihoods of citizens were more rapidly rehabilitated. Furthermore, the analysis revealed that some projects took a long time to implement although they were located on major streets; therefore, exploring the reasons for this requires further investigation.

The second factor found was that a single technician was responsible for the multiple implementation design projects within one block. This term was stipulated in the technical rules for the implementation regulations for the organisation of the basic characteristics in each

unitary intervention area. This factor was surmised to be a local norm to ensure effective coordination of the multiple implementation design projects within one block. As Venzone is a small town, it has a small historical centre and relatively small town blocks. If this finding was to be used in future earthquake reconstruction projects, determining the maximum number of projects coordinated by a single technician for particular block sizes is crucial.

The third factor was that a planner was appointed as the project implementation coordinator to prepare the reconstruction plan. A detailed district plan for the reconstruction of the historical centre was drawn up by architect Baraldini. He continued to act as the reconstruction project coordinator during the project implementation phase, checked the implementation design drawings, authorised the project construction starts, and inspected the buildings after completion. By establishing the strict technical rules set out in the reconstruction plan and supervising the following of these rules, he ensured that the appropriate spatial transformations were conducted, which contributed to the high-quality reconstruction. Mechanisms for the smooth overseeing of these types of special rules and guidelines may also have been a factor in the recovery process.

ACKNOWLEDGEMENTS

This study was supported by JSPS KAKENHI Grant Number 17J10930 and 20K22448.

DISCLOSURE STATEMENT

No potential conflict of interest was reported by the author.

NOTES ON CONTRIBUTOR(S)

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ENDNOTES

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7. Sarah Jane Hogg, "Reconstruction Following Seismic Disaster in Venzone, Friuli" 179.
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The Ancient Capital City Planning of East Asia in the Process of Sinicization

A Case Study of Korea, Japan and Vietnam

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Abstract

In the history of capital planning, China has formed a variety of capital planning modes, including the Capital Construction System. In different historical periods, the planning mode, as the essence of Han civilization, has been spread to East Asian countries such as Korea, Japan and Vietnam through various ways, which has influenced the ancient capital planning and construction of these three countries. However, after being influenced by The Han civilization, the three countries also combined with their own characteristics to form the innovation of ancient capital planning. Through longitudinal connection and horizontal comparison, this paper comprehensively analyzes the cross-regional spread of ancient Chinese capital planning mode and the specific situation of the three countries under the Influence of ancient Chinese capital planning. The results show that there are two ways to spread the capital planning mode in China. First, Chinese directly built and managed cities in East Asian countries, applying the culture, technology and institutions related to ancient Chinese capital planning. This is an example when North Korea and Vietnam were established by immigrant Chinese or under the rule of Chinese dynasties. Second, East Asian countries learned the culture, technology and system related to ancient Chinese capital planning in two ways. One is directly learning from China by sending envoys and non-governmental exchanges, such as North Korea, Japan and Vietnam. The other is indirectly learning from other countries affected by China, such as Japan introduced Chinese civil construction technology from North Korea and The mutual influence of capital planning modes among the three countries of North Korea. The ancient capitals of Korea, Japan and Vietnam all showed the influence of ancient Chinese capital planning in terms of site selection, spatial structure (spatial form and road network structure), palace, neighborhood, market and defense facilities (wall and moat). Among them, the capitals of these three countries almost completely learned from China in terms of spatial structure. Palace cities and capital cities are approximately square, or their outer walls are combined with nature. The road network is checkerboard, with the main road as the central axis. Based on the ancient Chinese capital planning, the innovation of North Korea is especial-

ly reflected in the way of site selection and defense facilities planning combining mountain city and flat city. Japanese innovation is embodied in the construction of the Tiao Fang system. Vietnam's innovation is reflected in the introduction of the French Vauban military fortress theory and technology, so that the capital planning reflects the mixed characteristics of China and France.

Keywords

Sinicization, China, East Asia, Capital City Planning, Planning Model

How to cite

Cao, Kang; Lin, Huihui; "The Ancient Capital City Planning of East Asia in the Process of Sinicization: A Case Study of Korea, Japan and Vietnam". In Carola Hein (ed.), *International Planning History Society Proceedings*, 19th IPHS Conference, City-Space-Transformation, TU Delft, 5 - 6 July, 2022, TU Delft Open, 2022.

6 JULY: SESSION 3.3

INFRASTRUCTURE, INDUSTRY, AND DEVELOPMENT.

Chair: Yoshifumi Demura

Modern industrialization around the castle town Ogaki

The process to acquire the resilient urban infrastructure

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Abstract

This study focuses on Ogaki as a typical example of a local city in Japan, reveals the process of modernizing the urban management method. In this process, urban structure was renovated with adding new infrastructures on the composition of the previous period. It shows that building of the infrastructure system for modern industry in Ogaki City had been carried out with the collaboration not only among several vertical administrative systems, but between the ex-samurai class and merchants. Ogaki City began to change rapidly after the 1920s, when a comprehensive regional water infrastructure system beyond the scale of the city was implemented. City planning was institutionalized in the middle of this foundation construction process and supported the realization of the concept shared among merchants. In the stage when the Street Network (1930) and the Canal Project (1937) were decided as the city planning, the cooperative relationship between flood control, energy supply, and water and land transportation had been completed. The concept of industrial urbanization was shared even in a state where there was no manifestation of the master plan, and the city planning was institutionalized in the middle of this foundation construction process and supported the realization of this concept.

Keywords

Local City Planning of Japan, Ogaki, Castle Town, Modern Industries, River Improvement, Industrial Logistics, Modern Local Organization.

How to cite

Yoshifumi, Demura; "Modern industrialization around the castle town Ogaki: The process to acquire the resilient urban infrastructure". In Carola Hein (ed.), *International Planning History Society Proceedings*, 19th IPHS Conference, City-Space-Transformation, TU Delft, 5 - 6 July, 2022, TU Delft Open, 2022.

DOI: 10.7480/iphs.2022.1.6442

INTRODUCTION

In this study, we discuss the urban modernisation process in Ogaki, an example of a typical Japanese provincial city. During this process, the urban environment was renovated through the addition of new infrastructure. The infrastructure required for modern industry was built as a collaboration among several vertical administrative systems and the public and private sectors, including the ex-samurai class and merchants. The population of Ogaki was 28,333 in 1920, which was small compared to the typical medium-scale town of Shizuoka, which had a population of 74,093 at the same age.

The name *Japanese castle towns* was introduced by Kostof (1991) to denote the centralised political system constructed by feudal lords in the 16th and 17th centuries. The keep was typically situated in the centre of the town, and residents of the vassals were arranged around the keep, protected by ramparts and moats. The towns also contained a ring of temples and shrines, then another of merchants and artisans.[1] Satoh (1995) clarified the fundamental patterns and differences between Japanese castle towns. He also discussed how these towns transitioned to the modern era and showed that some layouts of the City Planning Road Webs were influenced by those in castle towns. These were sorted into 10 types. However, previous studies overlooked the fact that the majority of the castle towns aimed to become industrial modern cities after the Meiji Restoration. Asano (2005) investigated the intentions of city planning in 43 small- and medium-scale cities during the Taisyo era (until 1926). Among the 43 cities, including Ogaki, there were 24 castle towns, and half of them declared themselves to be industrial cities[2]. Considering that Ogaki, which was obviously aiming to become an industrial city, did not make a similar declaration, more examples should be found. The urban composition of castle towns generally changed significantly after the construction of main railways such as the Tokaido Line.

Modern city planning has traditionally been understood as a reaction against the impact of industrialism and urban sprawl (Hall, 2011). In Japan, the original function of modern city planning was to cope with urban sprawl and guide urban development (Ishida, 2004). However, smaller towns such as Ogaki used city planning to accelerate industrialisation, expanding the urban area. In this case, city planning should be seen as part of the infrastructure system. Vitiello (2018) mentioned the significance of planners' involvement in shaping critical infrastructure[3]. According to him, innovations in infrastructure technology often spread between cities via the bureaucratic route, and infrastructure occupied a prominent position in the work of late 19th-century and early 20th-century planners. Hoeksema[4] clarified how, historically, land area changed in The Netherlands following large-scale flood protection and land reclamation measures and described relevant management methods. Demura (2018) explained how the development of the modern sewage system in Gifu rested on the regional development of huge water systems[5]. Although such examples bridge the gap between planners and constructors, few studies have aimed to understand the substructures of early city planning. It is particularly important to understand the planning process from this perspective, as this became the prototype for the current urban planning system.

THE OGAKI CASTLE TOWN IN THE FEUDAL AND EARLY MODERN ERAS

Although Ogaki is situated on the upper part of a broad fluvial field, which reaches the sea 37 km away, it is only 5 or 6 m above sea level, which is favourable for navigation but a major cause of flooding (Figure 1). The Kiso River system, which included the Ibi and Nagara Rivers prior to the Meiji Restoration (from 1867), was managed as a system of collective polders, called *Wajuu*, which consisted of areas surrounded by dikes situated among reticulated river flow. The Ogaki *Wajuu* is near the bottom of the alluvial fan of the Ibi River; accordingly, the groundwater level is high and there are scattered springs.

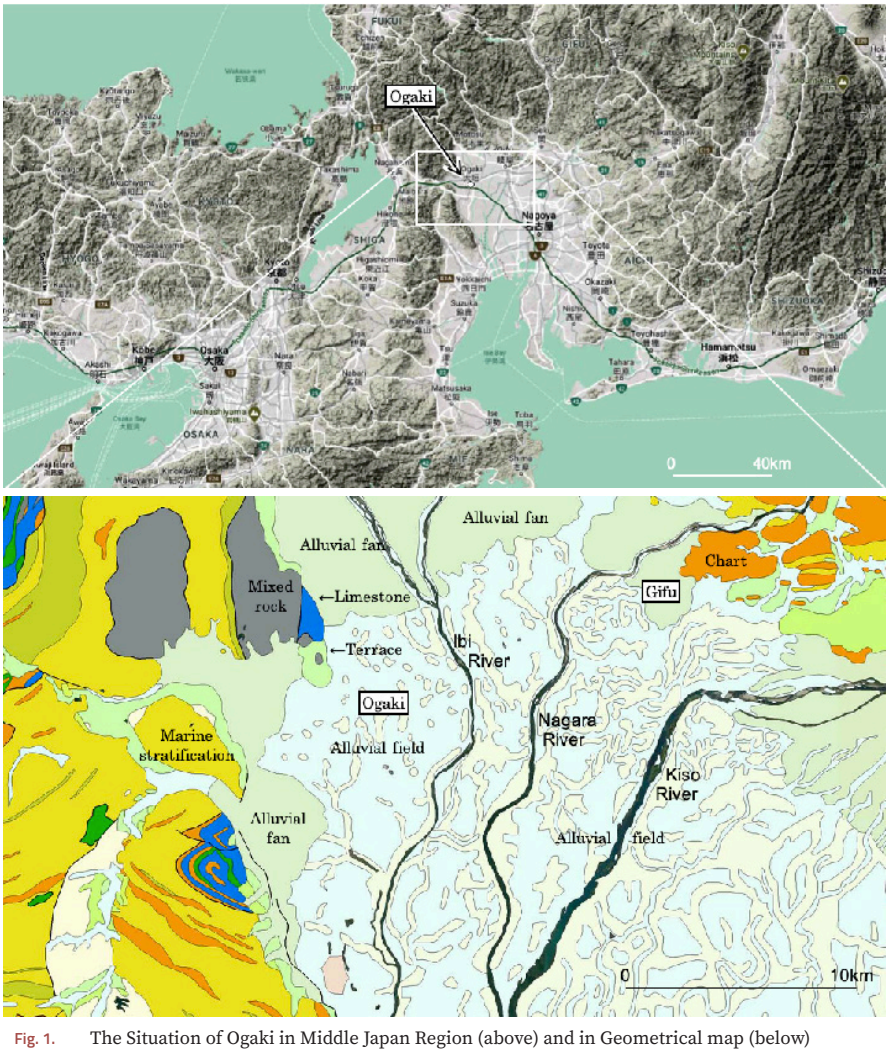

Fig. 1. The Situation of Ogaki in Middle Japan Region (above) and in Geometrical map (below)

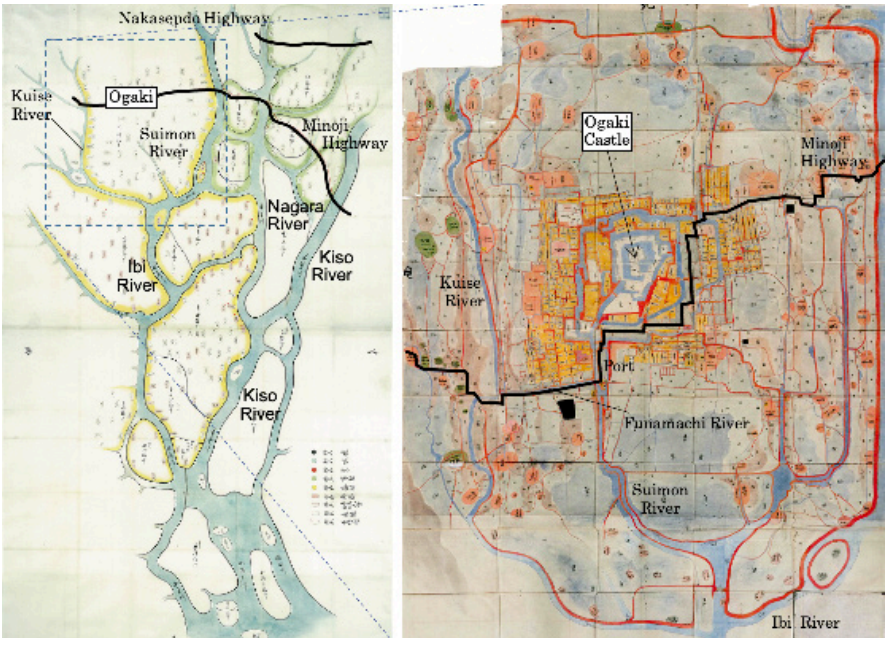

Fig. 2. The Lower Kiso River System which consisted of Collective Wajuu polders (left: the map of 18th century) and the Ogaki Castle Town in Feudal Era (right: the map drawn in 1687)

The Ogaki Castle Town, which was designated 100,000 *koku* (which traditionally means that the area had the capacity to produce food for 100,000 people) in the feudal era (Figure 2), is located where water and land traffic meet, with the rich hinterland of Mino, and was an affluent area for agricultural production. Between the Nakasendo Highway, Minoji Highway, and Suimon River, the old town was a central market for agricultural production from the Middle Ages onwards. The Kuise River runs from north to south in the west of the city and provides access to Akasaka, the area that produced the limestone used to construct the castle town. The Kuise and Suimon Rivers were connected by the Funamachi River, and Minatomachi (port district) was established at the junction of the Suimon and Funamachi Rivers. This was the port of Ogaki. The town consisted of three or four moats surrounding Ogaki Castle. Commercial and industrial functions were arranged around the Ogaki Port along the Minoji Highway, which bent around the moats to the east of the castle town. The Suimon River ran south from the port and was the main navigation route to the sea[6].

The Ogaki Station on the Tokaido Main Railway was constructed in the north of the city (1884), and a street was built to link the station to the city, thus marking the beginning of modernisation. However, Ogaki was flooded several times and suffered a huge earthquake (1891, magnitude 8.0), which hampered its economic development, whereas nearby Gifu City suffered relatively little damage and grew rapidly thereafter.

More broadly, an urgent problem faced by the early Meiji government was to reorganise the nation, transitioning away from feudal society. It was thus necessary to construct secure

routes for local industry and establish stable agricultural areas by implementing flood prevention measures. Johannis De Rijke, a Dutch engineer hired for this purpose in 1884, surveyed the Kiso River System and designed improvements. This river improvement project, carried out from 1887 to 1911, aimed to prevent floods, drain fields in dikes, and improve shipping routes. Ogaki's progress started after the 1920s, when the comprehensive regional water infrastructure system, beyond the scale of the city, was developed.

CONSTRUCTION OF THE YORO RAILWAY AND THE IBI ELECTRIC POWER PLANT

In the early modern era of the castle town, the Shizoku (ex-samurai clan) had to try to engage in business to maintain their livelihoods. In 1896, the Shizoku in Ogaki cooperated with merchants to form the Ogaki Kyoritsu Bank after terrible failures. Einosuke Toda, from a former monarch's family, became the president[7] and was also president of the Ogaki Chamber of Commerce (OCC) in 1904. He often voiced his intentions to transform Ogaki from a castle town into an industrial city. A survey of the Ibi River by members of the OCC revealed that it had the potential to generate electric power. In 1906, Toda and six other founders received permission from the prefecture to use the hydropower. In the recession that followed the Russo-Japanese War, the people of Ogaki invited Yujiro Tachikawa to manage the project. Tachikawa, who was from Ogaki Town and had run the Daishi Electric Railway in Tokyo, founded Ibi River Electric Power Co., Ltd. (IEP), in 1912 in response to the invitation[8]. At the same time, in April 1911, Mosaku Ijima, president of the Yokkaichi Chamber of Commerce, made plans to lay the Yoro Railway, and Toda and others joined him. The aim of connecting Ogaki, Kuwana, and the Yokkaichi Port was to encourage the development of industry along the line (*Yoro Railway Co., Ltd. Charter of Establishment*, 1911.4.17). Tachikawa became president of Yoro Railway Co., Ltd., established in July 1911 . In 1922, Ibi River Electric Co., Ltd. which merged with the railway company, succeeded in electrification of the railway and strengthened its capacity for industrial distribution.

According to *the Eighth Report of the Annual General Meeting of Shareholders* issued by Yoro Railway in September 1920, the transportation volume of local products increased by 19,286 tons from the previous term, resulting in a shortage of wagons and repair costs for vehicles. The operating expenses also increased by 18,364 yen from the previous term due to employee salary payments. As a countermeasure, Yoro Railway was electrified in 1923. By 1920, it was clear that electrifying the train lines to increase train speed would result in more round trips and thus more freight traffic (Kobe Shimbun, 1920.7.2). For example, cargo tonnage increased from 625,351 tons in 1921 to 1,082,078 tons in 1924, while operating expenses hardly changed (from 139,793 yen to 139,696 yen), as shown in the Fourteenth Report from the Ibi River Power Co., Ltd. in 1924.

After electrification, Yoro Railway's passenger revenue overwhelming surpassed freight revenue, although passenger revenue fluctuated according to circumstance. The fact that freight revenues remained nearly constant despite the increase in freight volume suggests that freight rates were deliberately priced irrespective of freight volume[10]. That is, it seems that

lowering the freight charges was intended to provide inexpensive industrial logistics services along the line, with support from the considerable passenger revenue[11]. This indicates that the Yoro Railroad was positioned as a common asset that should be provided to support industrial logistics in the region.

Tachikawa described the management policy of the power generation business in "Ogaki Development History" (1919): He aimed to realise a cheap continuous power supply based on hydropower that could be used by factories all day and night. An electrochemical industry was also founded that used surplus electric power and locally available limestone. Along with providing an inexpensive power supply, Tachikawa aimed to make logistical innovations to realise his vision of a prosperous industrial town[12]. The railway and power generation businesses led to the construction of two big factories by textile companies from outside the region. The conditions of the invitations to these companies stipulated that the electrical lines must be supplied by the IEP. Following these forerunners, many textile factories, including six large ones that employed more than 300 workers each, were established along the Yoro Railway up to 1920s. Some electrochemical factories also appeared (Figure 3).

IMPROVEMENT OF THE WATER COURSES

In December 1928, the Home Ministry announced a half-price subsidy for river maintenance, for which prefectures were responsible. Toda then announced the following year that the Suimon River would be improved. He said that the Suimon River should be used by industry as a means of inexpensive water transport[13]. After an active campaign, in December 1932, the Home Ministry decided to improve the Suimon River at a total construction cost of 983,500 yen[14].

Masaaki Sakata, an engineer from the Home Ministry[15], made a concrete plan for the Suimon River with the aim of improving drainage and water transport in urban areas. Around 1929, Reikichi Tamura, an engineer on the project, had come to Ogaki City to undertake a survey. Sakata announced the details of the plan arising from the survey results to Mayor Tohjima and the OCC in December 1932[16].

The survey revealed that the main cause of the frequent flooding in the Ogaki *Wajuu* polder was the fact that rivers and waterways were used for both irrigation and drainage. Organising a system to separate these functions was paramount to ensuring the stability of Ogaki's urban base. Therefore, the improvement plan (Figure 4) aimed to reorganise the small rivers into separate irrigation and drainage systems that transcended the conventional irrigation channels. After the high-water level was decreased by 1 m, the Suimon River, the main waterway, was connected to Ogaki Station, while the normal water level was maintained at 1 m or more. Sakata insisted that the water would also be a measure of future contamination caused by industrial wastewater that would be produced whenever a new factory was built in Ogaki City.

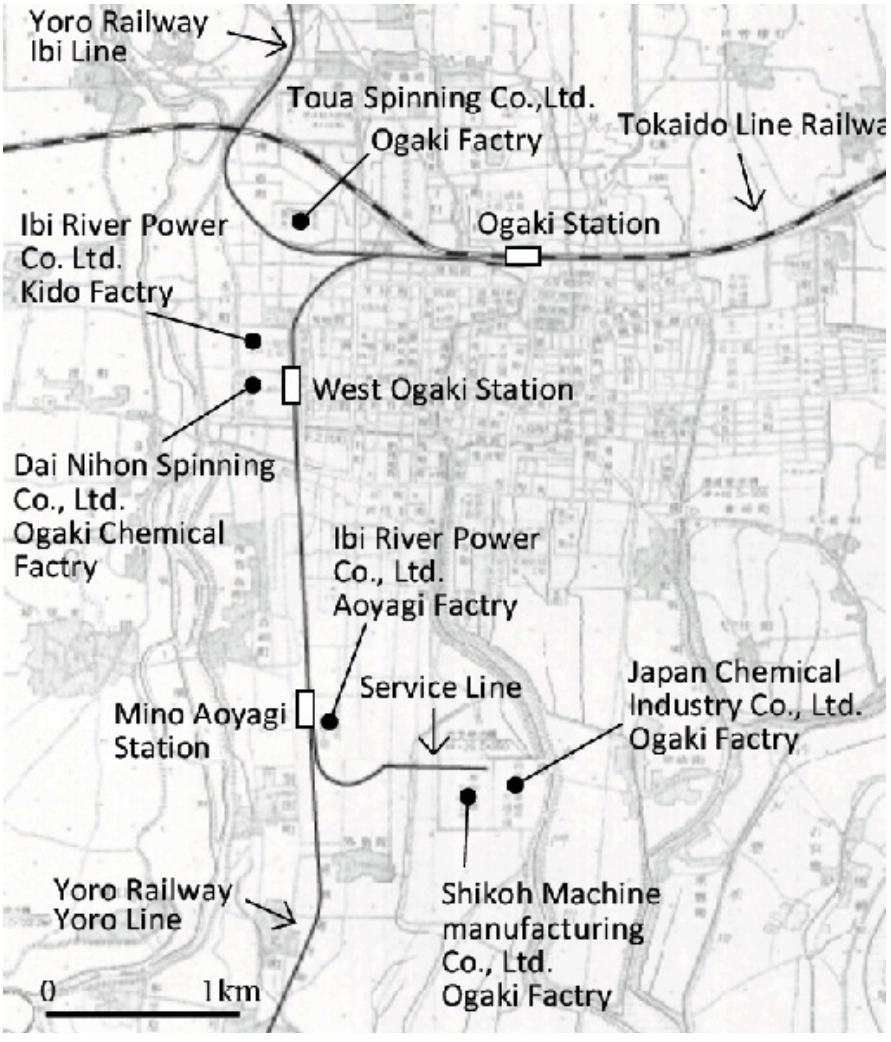

Fig. 3. The Lower Kiso River System which consisted of Collective Wajuu polders (left: the map of 18th century) and the Ogaki Castle Town in Feudal Era (right: the map drawn in 1687)

However, Sakata's emphasis was to make boat navigation more convenient. Sakata pointed out the economic benefits of water transportation, giving The Netherlands as an example, and said that it was important for connecting Ogaki's trade system to Nagoya and Yokkaichi Ports. Although the original Suimon River Improvement Plan targeted the area south of the main quay, called Orgaki Port, the route was extended so that motor ships could reach Ogaki Station. Sakata also insisted that Ogaki municipality should refurbish the dock equipment, quays, and harbours and develop more connections to railways and roads. This canal infrastructure was to function as the framework of a new logistics system. Sakata played an important role in both improving the rivers for drainage and building a logistics base by connecting railways and water transportation[17].

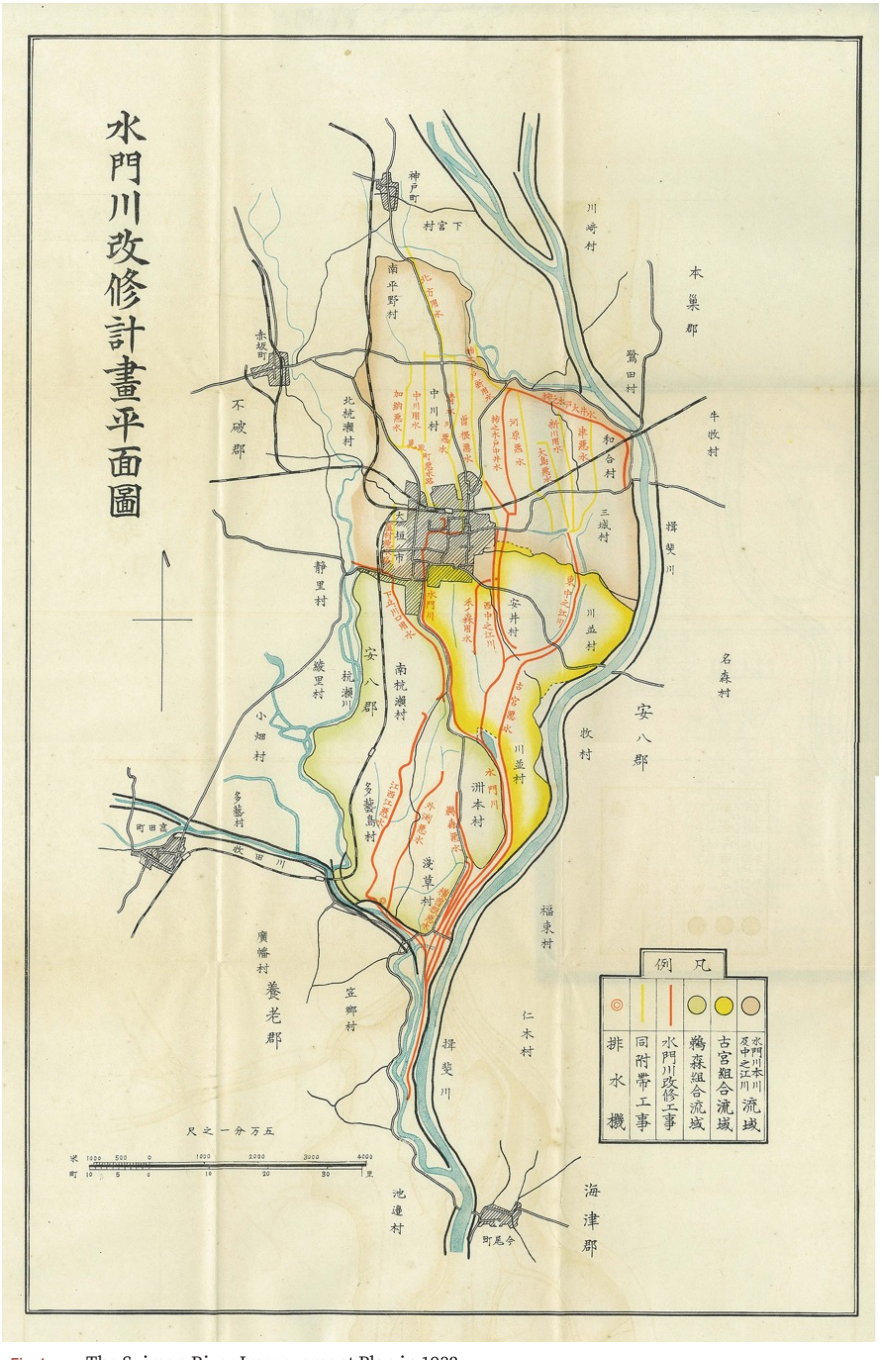

Fig. 4. The Suimon River Improvement Plan in 1932

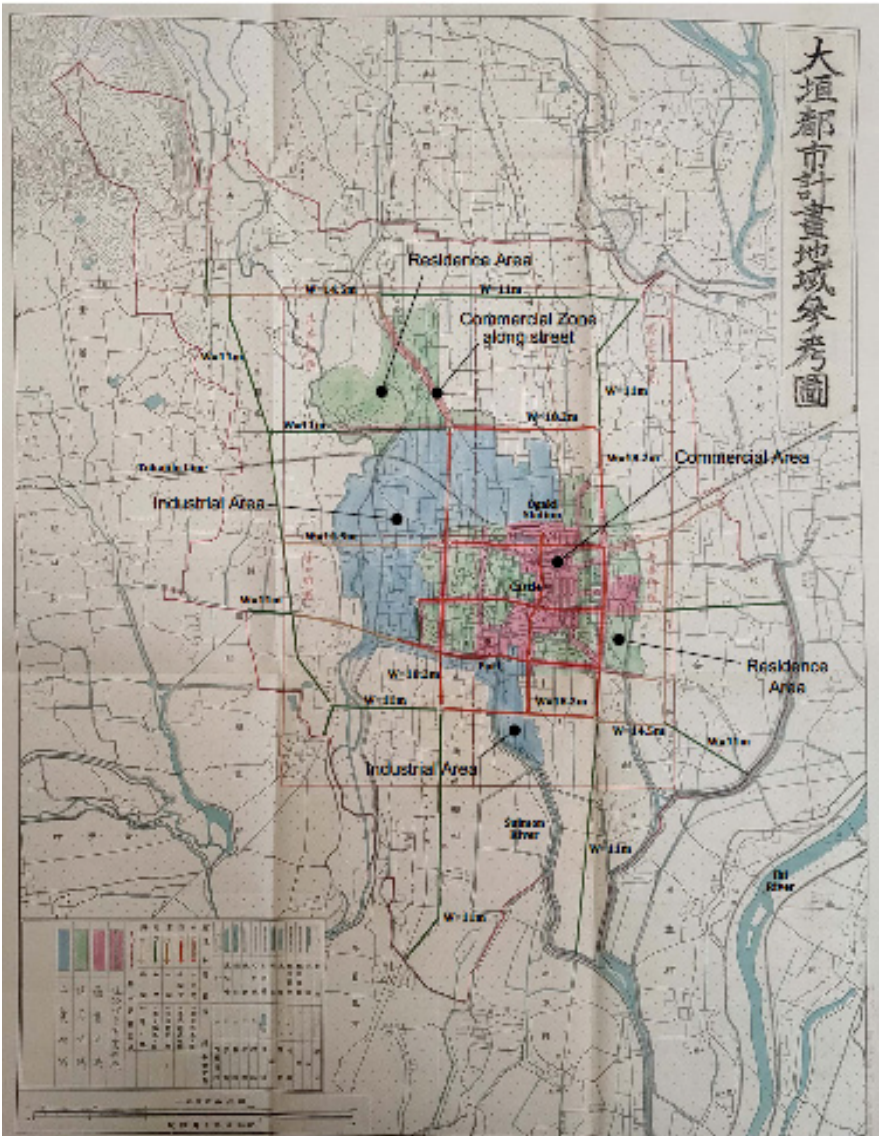

Fig. 5. The Ogaki City Planning Restricted Area in 1933. The Road Web Planning was also shown in this Plan.

OGAKI CITY PLANNING BEFORE WORLD WAR II

In November 1924, Mayor Tohjima filed a petition with the Home Ministry requesting an early application of the City Planning Act, mainly because of road problems[18]. In the next year, the City Planning Act was enacted in Ogaki City, and the City Planning Street Web was approved in July 1930. This street plan was approved to address the lack of systematic communication and width of roads[19]. Afterward, the city street plan was revised several times, and finally the street network became a grid, as shown in Figure 5. This was a standard super-grid configuration that aimed to form a new automobile distribution network by connecting stations, urban areas, and suburbs. An 8-*ken* (14.4-m wide) street extended northwest to Akasaka, where limestone was produced for both export and raw material in new electrochemical industry, which needed to be connected to Ogaki Central City Area. The northwestern suburb, which was already connected to Ogaki Station by the Yoro Railway, was also included in the new road network.

According to the description of the City Planning Restricted Area in 1933 (Figure 5)[20], the area around the Ogaki Station line was designated as a commercial area because it had previously been the commercial centre of the town. The station line had a widest width of 10.5-*ken* (about 19 m) in the street network, and the road was considered as symbolising the gateway to the town while maintaining its conventional use. To promote industrial use of the existing infrastructure, the land in the northwest and along the Suimon River was designated as an industrial area. In other words, the City Planning Gifu Regional Committee, with Akira Ando as its engineer, formulated the city street plan and restricted areas to enhance the logistical functions of the Yoro Railway and Suimon River, as the river engineer Sakata described.

Toda also considered the needs of the new industrialised society, such as the welfare and education of employees who would become its urban residents in 1918. The area around the castle and other tranquil areas were designated residential areas. However, compared to these residential areas, industrial areas with major transportation infrastructure were set aside in larger areas in a cohesive manner.

COMPLETING WATER AND LAND CONNECTION

In March 1929, Toda submitted a proposal to the prefecture to rebuild Ogaki Station, explaining the need to promote the connection between the station building and station square in future urban plans[21]. The next month, Mayor Tohjima also submitted a petition regarding this matter to the government[22]. In February 1933, the Suimon River replacement work by Ogaki City was started at a cost of 48,000 yen[23]. This work was intended as a "preparatory battle to realize a city planning road," and the ship pool in front of the Yoro Railway station was refurbished. Then, in January 1937, the Ogaki City Planning Square Project was formulated[24], and Ogaki Station was rebuilt along with the City Planning (Figure 6). With a new station street with a width of 19 m, symbolising the entrance to Ogaki, water and land transport around the station square were connected, as planned.

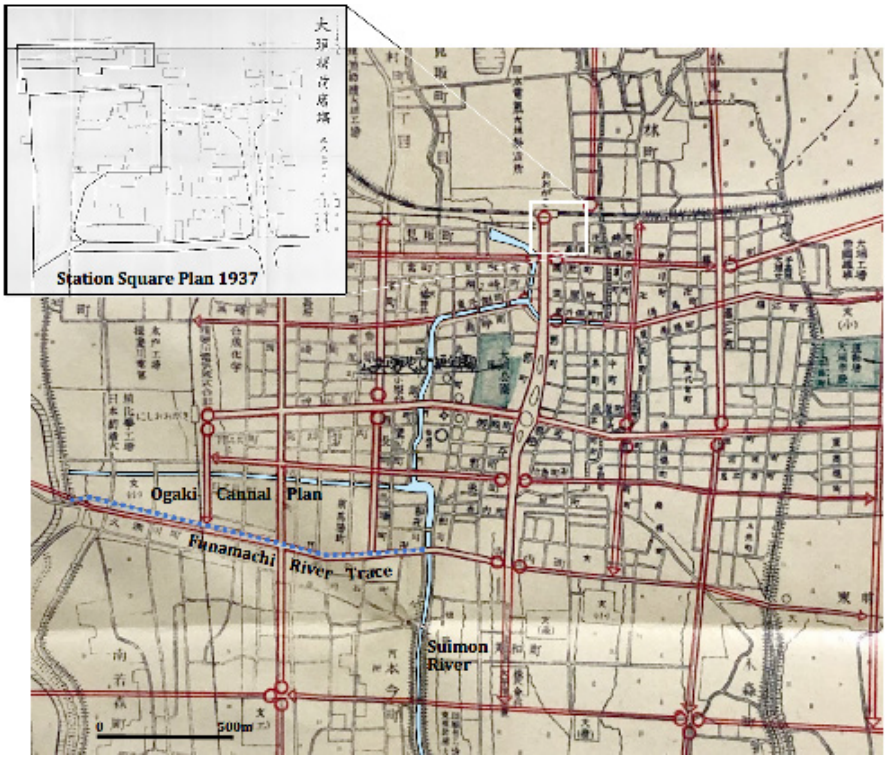

Fig. 6. The Lower Kiso River System which consisted of Collective Wajuu polders (left: the map of 18th century) and the Ogaki Castle Town in Feudal Era (right: the map drawn in 1687)

Following these projects, the Ogaki City Planning Canal Project was approved in March 1937[25] (Figure 6). In July 1934, Sakata explained to the members of the OCC and city officials that the plan would provide logistical support for supplying products and raw materials to factories[26]. In 1935, Mayor Tohjima campaigned for a new canal, insisting that it could be made possible by sharing the flow to the Ogaki Canal, reducing the amount of water provided downstream to the Kuise River, and increasing the drainage capacity. This would increase the amount of water in the Suimon River and make water transportation more convenient[27]. In April 1936, the city council unanimously agreed to begin constructing the canal.

In May 1936, Kiyonori Abe[28], an engineer at the Nagoya Civil Engineering Office of the Home Ministry, and planning engineer Ando conducted a field survey and found the plan to be promising[29]. They stated that the Ogaki Canal construction would be promoted at a cost of 300,000 yen as a City Planning Project. Mayor Tohjima requested a subsidy of 100,000 yen from the government and prefecture[30]. The Ogaki City Planning Canal Decision Paper, approved in 1937, stated that connecting the Suimon and Kuise Rivers would contribute to the development of industrial areas[31]. The canal connecting the Suimon and Kuise Rivers was designed with a cross-section 1 m deep, a 9-m bottom width, and a 12-m open surface width based on the shapes of ships (average width: 2.5 m, length: 14–15 m), with a length of 1,030 m.

Locks were planned at two locations to enable adjustment of the water levels. To facilitate the shipment of luggage, a 3-m unloading site was set up adjacent to the Kuise River, and a 300-m storage reservoir was planned adjacent to the Suimon River[32].

According to a previous study[33], the main aim of this construction was not to improve transportation as declared, but to improve the drainage of wastewater from new factories. The author argued that it explains why this canal ended up just draining water and was not completed, even though this genuine purpose was concealed. However, as mentioned previously, the Suimon River improvement project was obviously for both drainage and transportation. Furthermore, efficient water transportation was part of the grand design of Ogaki as developed by Toda and Sakata. It is also true that the Funamachi River had to be separated from the Ogaki Canal, which served as a drainage channel, because it supplied irrigation water to the Suimon River Improvement Project. As described previously, the main purpose of this project was to separate irrigation and drainage. At least at this time, Ando, as the city planning engineer, worked with the Home Ministry as a technical consultant to realise "the River Port Ogaki" and make it a major collection and distribution place, with a hinterland in the Seino region[34].

In June 1936, Ando spoke to Mayor Tohjima about the canal construction and said that they would create "a splendid thing like the Nakagawa Canal[35]". The Nakagawa Canal was completed in 1932 in Nagoya City. The engineer, Hideaki Ishikawa of the Aichi Regional Committee for Urban Planning, explained that Nakagawa Canal should be on *Toshi Koron* in 1930[36]. That is, the plan was to connect the ship pools near Nagoya Station to the Nagoya Port, to obtain financial resources through riverside development by excess expropriation, and to turn the area along the canal into an industrial area. Ando's statement of "a splendid thing like the Nakagawa Canal" was thought to refer to this, and the bank of the Ogaki Canal was planned to be an industrial area, to be paid for by the beneficiaries[37]. Ando was actively involved in planning the canal and played a role in promoting its construction by coordinating the positions of the mayor, prefectural assembly, and Home Ministry. It is thought that the legacy of Toda's vision and Sakata's technical expertise had been maintained because Mayor Tohjima and other bureaucrats inherited their policies. In addition, the combination of urban planning and the development of logistics for commerce and industry proved to be very fruitful.

CONCLUSION

The Ogaki Castle Town grew at the junction of land highways and waterways connected to the sea. In the feudal era, the town consisted of three moats surrounding a castle and a commercial area along the port, moats, and highway. The configuration of the castle town was reorganised because of the development of industry. The Ogaki Chamber of Commerce, which united the ex-samurai class and the merchants and was formed after struggles in the early modern era, established the Yoro Railway Co., Ltd. (1911). The aim of this company was to develop a line running north and south through Honshu Island, which would help Ogaki become a new logistics base. The Ibi River Electric Power Co., Ltd., was established (1912) to supply hydroelectric power and was used to promote industry. After the completion of the

Yoro Railway (1919), the Ibi River Electric Power succeeded in electrifying the railway (1922) and strengthened industrial distribution. The abundance of groundwater and spring water led to the Suimon River Improvement Plan (1932), which aimed to reinforce the use of the river as a transportation link, and Ogaki Station was connected to the Suimon River. When the Ogaki City Planning Street Web (1930) and the Ogaki City Planning Canal Project (1937) were developed, the cooperation among flood control, energy supply, water transportation, and land transportation had come to fruition.

The infrastructure development required to construct an industrial city should be investigated focused on the relationships between each project. This was the essence of the resilience of Ogaki's infrastructure system that was created through a series of projects. In other words, the water infrastructure of pre-modern origin was utilized as a foundation for the reintroduction of the water transportation that supports modern industry by strengthening it and connecting it to the railroad as a new land transportation system. This was comprehensively organized through city planning as a new system. Furthermore, it is understood that the resilience was achieved by the relationships among individuals, such as engineers and bureaucrats, who worked personally between projects.

These projects were based on more than 30 years of continuous improvement, which started with the construction of electric power and a logistics infrastructure under the leadership of the families of the *samurai* class in conjunction with commercial and industrial enterprises. And they were completed with a city planning to coordinate each project. In particular, a river engineer provided technical support, and a planning engineer consulted on land systems. Information was shared seamlessly to support the flow of transportation links across each jurisdiction. In other words, the concept of industrial urbanisation was shared, even prior to the development of the master plan, and each agency advanced toward this aim.

ENDNOTES

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ample, about 9 times in 1917, 6 times in 1922, and 5 times in 1925. Moreover, cargo revenue was not changed much in any year; less than 50,000 yen. (Gifu Prefectural Statistics from 1913 to1925).

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IMAGE SOURCES

Fig. 1: Google Map (above) and Geological Survey of Japan web page (https://gbank.gsj.jp/geonavi/) (below).
Fig. 2: Gifu Prefecture Historical Archive (left) and *The History of Ogaki City (right)*.
Fig. 3: *The History of Ogaki City*.
Fig. 4: Digital Archives of JSCE Library [Old Collection of Hideyoshi Sanada. 4488].
Fig. 5: Statistics of Gifu Prefecture from 1923 to 1935.
Fig. 6: National Archives of Japan [02293100] (above) and *The History of Ogaki City* (below).

ACKNOWLEDGEMENTS

This work was supported by JSPS KAKENHI Grant Number 19K04638 and The Obayashi Foundation.

DISCLOSURE STATEMENT

No potential conflict of interest was reported by the author.

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Coordinative Mechanism of City Administrations in Yokohama and New York in Motorway Underground Projects in the 1960s

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Abstract

In the history of capital planning, China has formed a variety of capital planning modes, including the Capital Construction System. In different historical periods, the planning mode, as the essence of Han civilization, has been spread to East Asian countries such as Korea, Japan and Vietnam through various ways, which has influenced the ancient capital planning and construction of these three countries. However, after being influenced by The Han civilization, the three countries also combined with their own characteristics to form the innovation of ancient capital planning. Through longitudinal connection and horizontal comparison, this paper comprehensively analyzes the cross-regional spread of ancient Chinese capital planning mode and the specific situation of the three countries under the Influence of ancient Chinese capital planning. The results show that there are two ways to spread the capital planning mode in China. First, Chinese directly built and managed cities in East Asian countries, applying the culture, technology and institutions related to ancient Chinese capital planning. This is an example when North Korea and Vietnam were established by immigrant Chinese or under the rule of Chinese dynasties. Second, East Asian countries learned the culture, technology and system related to ancient Chinese capital planning in two ways. One is directly learning from China by sending envoys and non-governmental exchanges, such as North Korea, Japan and Vietnam. The other is indirectly learning from other countries affected by China, such as Japan introduced Chinese civil construction technology from North Korea and The mutual influence of capital planning modes among the three countries of North Korea. The ancient capitals of Korea, Japan and Vietnam all showed the influence of ancient Chinese capital planning in terms of site selection, spatial structure (spatial form and road network structure), palace, neighborhood, market and defense facilities (wall and moat). Among them, the capitals of these three countries almost completely learned from China in terms of spatial structure. Palace cities and capital cities are approximately square, or their outer walls are combined with nature. The road network is checkerboard, with the main road as the central axis. Based on the ancient Chinese capital planning, the innovation of North Korea is especially reflected in the way of site selection and defense facilities planning combining mountain city and flat city. Japanese innovation is embodied in the construction of the Tiao Fang system.

Vietnam's innovation is reflected in the introduction of the French Vauban military fortress theory and technology, so that the capital planning reflects the mixed characteristics of China and France.

Keywords

transformation of old urban infrastructure, urban motorway, utilization of existing urban space, municipal administration, coordinative mechanism

How to cite

Taguchi, Toshio; "Coordinative Mechanism of City Administrations in Yokohama and New York in Motorway Undergrounding Projects in the 1960s". In Carola Hein (ed.), *International Planning History Society Proceedings*, 19th IPHS Conference, City-Space-Transformation, TU Delft, 5 - 6 July, 2022, TU Delft Open, 2022.

A study on the transformation of resource-based shrinking cities

Renovating green infrastructure to improve urban resilience. A case study of Hegang City, China

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Abstract

The historical process of rapid urbanization in China is seeing the end of the long-continued model of Growth Supremacism and the arising phenomenon of shrinking cities. Shrinkage causes a great deal of risk to the city, including urban change, disturbance, uncertainty, and adaptability. The science of resilience is an important theory in addressing these issues. As a type of critical infrastructure, green infrastructure (GI) not only plays a key role in enhancing urban resilience, but also can be an important part of urban planning strategies for strengthening sustainable development. GI is an essential type of urban space, and conducting research on city space transformation is an important basis for enhancing urban resilience and promoting sustainable development in shrinking cities. The relationship between GI and urban resilience has been examined in existing studies, but fewer scholars have focused on the relationship between the two in a shrinking city scenario. Based on this research gap, this study will take as a case study the city of Hegang, Heilongjiang Province, China, which is a representative of a resource-based shrinking city. This paper analyses the contribution of green infrastructure to urban resilience through notion of coupled infrastructure systems (CIS) in four dimensions. Firstly, to identify and analyze the urban shrinkage characteristics and existing GI of the city of Hegang through remote sensing data and GIS technology. Secondly, the planning history of the city of Hegang from its development to the present is reviewed and analyzed, which is combined with the spatial characteristics analyzed in step 1 to explore the urban resilience of the existing GI system in Hegang in four dimensions (CIS): policy, performance, connectivity and social dimensions. Thirdly, based on the analysis in the previous step, combining the characteristics of the shrinking city of Hegang derived from step 1, a composite " flexible- resilient" NOVEL GI system is constructed. Four different spatial types of urban resilience enhancement strategies are proposed, and the enhancement strategies are re-evaluated in conjunction with the CIS notion.The study proposes strategies for space transformation design and policy implications for improving the urban resilience of resource-based shrinking cities. The following conclusions were finally reached. 1. The transformation of green infrastructure promotes the urban resilience of resource-based shrinking

cities, which also can address the problem of the tension between urban space and use demand arising from urban shrinkage. 2. The urban shrinkage of Hegang is characterized by a spatially dilutive shrinkage in the urban center and a perforated shrinkage in the inner and edge of the city, with the overall spatial pattern of shrinkage showing a “cheese” model of shrinkage. 3. The current state of green infrastructure in Hegang without a high degree of urban resilience, which may be related to the ‘growth-oriented’ planning ideology that has been advocated throughout Hegang’s planning history.

Keywords

shrinking cities, urban resilience, green infrastructure, city space transformation, planning history

How to cite

Ye, Qiutong; Zhang, Tianjie, “A study on the transformation of resource-based shrinking cities: Renovating green infrastructure to improve urban resilience. A case study of Hegang City, China”. In Carola Hein (ed.), *International Planning History Society Proceedings*, 19th IPHS Conference, City-Space-Transformation, TU Delft, 5 - 6 July, 2022, TU Delft Open, 2022.

The project to remove the railway from the surface of the city of Valladolid and take it underground

Success or failure of the urban remodelling process seen through city planning documents

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Abstract

The idea of constructing a tunnel for the railway under the city of Valladolid, Spain, has been under discussion since the 1980s. This possibility was considered through various studies, three different project competitions and several urban master plans. Thus, the division of the city by the railway into two areas would be resolved, the traditionally richest area, which included the historic centre and the most elegant neighbourhoods, and the first poorer periphery. Various officially approved plans were created to carry out the project according to the proposition of Richard Rogers. However, the deficient design of the operation and the economic crisis made the construction of the tunnel impossible as the expected from the sale of the land occupied by the railway, 13 years after the approval of the project have not materialized. Many of these events have been set out in various city planning proposals. The latest stage in this ambitions project was the cancelation of the construction of the tunnel and important investment in consolidating the current railway on the surface; more precisely the improvement in underground pedestrian crossings. Yet the story is far from over. At present, the discordant voices have been called for the tunnel project to be revived, so the dilemma is once more undecided. Party politics and financial question are seen to have a greater weight than technical reports from experts.

Keywords

Urban transformation, High Speed Train, urban remodelling, urban modernization, transformations of city planning

How to cite

Sainz Guerra, José Luis; Sainz Esteban, Alicia; del Caz Enjuto, Rosario; "The project to remove the railway from the surface of the city of Valladolid and take it underground: Success or failure of the urban remodelling process seen through city planning documents". In Carola Hein (ed.), *International Planning History Society Proceedings*, 19th IPHS Conference, City-Space-Transformation, TU Delft, 5 - 6 July, 2022, TU Delft Open, 2022.

DOI: 10.7480/iphs.2022.1.6511

Fig. 1. Level crossing in the neighborhood of La Pilarica in the 90s.

INTRODUCTION

More can be learnt from failure than from success, which is why errors committed must be analysed in depth. The example of Valladolid is an extraordinarily rich and eloquent case concerning mistakes made and opportunities lost in the city planning sphere.

The arrival of the high speed railway was seen, in many Spanish cities, as an opportunity for the city to improve; not only through new infrastructures, but also through the economic expectations that arose for the citizens, as had occurred a century and a half before with the arrival of the railways. The problem is that these expectations did not materialise because of the mistakes made in numerous fields, particularly in the field of city planning.

In fact, the high speed railway is a means of transport that transforms cities, as has already happened with the arrival of steam trains to mediaeval cities. In particular if we take into account the location of most new or reformed railway stations in the city centres, reinforcing the central nature that most old stations had acquired over a century and a half. Their recent introduction demonstrates the characteristics of the urbanisation process in Spain's cities. This process of reinforcing the centrality of the high speed railway has taken place at the same time as the appearance of many ring roads that favour the urban sprawl towards surrounding municipalities. On the one hand, we can see the extensive nature of the new city which sends certain uses out to the periphery, while at the same time there is a greater concentration-polarisation with the high speed train, reinforcing the most profitable uses in the centre and generating important processes of metropolisation[1].

HIGH SPEED AND PUTTING THE RAILWAY UNDERGROUND

Many Spanish cities began grandiose railway projects at the start of this century and many are still immersed in the transformation processes of their railway infrastructures. Most of these processes possess the following elements: reform and improvement of the rail network, putting the railway line underground to pass through the city and the urban transformation of the then unused land. Most of these projects are characterised by digging tunnels of a few kilometres below the city centre; the best known being those of Madrid, joining Atocha to Chamartín and the Pasillo Verde[2] The first to be built was that of Cordoba, with the construction of the first stage of the Madrid-Seville AVE. It should be remembered that this line was constructed for the World Expo of Seville in 1992 (EXPO 92) and that it had an enormous amount of State funding.

Even from the first example, there are many coincidences in the ingredients that are common to later projects carried out in Spain: in Cordoba, there is an operation to deal with the restructuring of the city's railway network, after which land is left vacant and can be sold as land for building with important capital gains. These land plots played a vital role in the operation, as the funding partly came from the land sales that accompanied the urban operation of constructing the new station. As this worked as a model, it was used as the formula to create a commercial enterprise in each city, the so-called Commercial Integration Societies (Sociedades de Integración Mercantil or SIF), with the participation of several organisms: the Ministry of Public Works (ADIF, RENFE), the Regional Government and City Council of each city. Thus, thirteen Spanish cities took on this model in the first two decades of the twenty-first century[3]. In the end, only one (Zaragoza, with 97.08% of the work completed) has almost completely finished the programme, while the rest have low, or very low, percentages of completion, as the average is 26.84%. In the case of Valladolid, the figure is 38.77%[4]. The increased costs are also important, the average being 142.95%, and in the case of Valladolid it is 117.12%[5].

THE CASE OF VALLADOLID

In the city of Valladolid[6], the announcement of the arrival of the High Speed Train brought a wave of planning proposals and high expectations on the part of the citizens. First of all, it was necessary to deal with the transformation of large areas of land belonging to the railways that had lain unused for some time. Secondly, a debate began concerning the possibility of creating a tunnel under the city for the railway line. The result was a proposal to put the railway station underground and to transfer the bus station to the same site, thus creating a transport hub for travellers. The opportunity that the arrival of the High Speed Train (AVE) provided, thus allowed consideration of the projects that would enable the necessary work to transform Valladolid's rail network and its integration with the city, as well as the urban development of the land freed following the creation of the tunnel for the railway. This renovation, including the tunnelling project, is an extraordinary example from which we can clearly see the difficulties of carrying out operations of such a magnitude in cities.

THE FIRST IDEAS FOR RENOVATING THE LAND OCCUPIED BY THE RAILWAY AND THE CONSTRUCTION OF THE TUNNEL TO SEND THE RAILWAY LINE UNDERGROUND

The General Urban Plan of 1984 (PGOU-1984), the first urban plan of the democratic era, dealt with the subject of the railway in the city among other matters. The effort made by the team that drafted the plan to consult the population concerning city planning decisions brought to light, among other topics, the citizens' discontent in many residential areas with the railway: the bad quality of access between one side and the other of the railway line, the danger of the pedestrian underpasses, the problems of the level crossings, the insalubrity of the verges, the neglect of the residual areas, occupied as uncontrolled parking areas, the harshness of the containing walls that formed an ugly barrier[7].

PGOU-1997

The PGOU-1997 swung between the two possible alternatives that were being discussed at that moment: the demanded improvement to the areas immediately bordering the railway and the question of access to residential areas through pedestrian underpasses or overpasses, or putting the railway line itself underground. In the "Memoria" of the PGOU-1997, it is stated that the plan aims to systematize "access between residential areas on opposing sides of the railway line, though any intervention in this sense must be closely linked to the final alternative adopted with respect to the railway's passage through the city. The approved criterion has been to: 'Propitiate the railway tunnel while not discarding any measure that, in the short term, would allow greater accessibility and improvement of the borders ...'". These dual possibilities, integration or tunnelling, which were on the table for a long time, made the interventions over the following twenty years much more difficult; interventions which would slowly improve the areas surrounding the railway, but which remained frozen.

During these years, little by little, the transformation was taking place towards urban planning through different partial projects concerning the railways operation as a whole, including the tunnelling. In the PGOU-1997, a series of interventions were proposed to guarantee accessibility between residential areas on both sides of the railway line, so the tunnelling and the pedestrian underpasses existed side by side. Prudence was the principal measure, since the timeline for the tunnel was exceedingly long and there was an urgent need to resolve the problems of accessibility. Nevertheless, of the many measures programmed, only those of the new overpasses linked to the construction of the new southern ring road, which had just entered into service, were materialized.

The PGOU-1997 proposed definitions of the diverse railway infrastructures involved, through the development of the Special Plan, the drafting of which was delayed throughout the entire period of the Plan's term of validity. The interventions to be carried out through the said Plan were the following:

- Construction of a by-pass for freight trains.
- Remodelling of the existing railway installations, some functioning and others in disuse for many years (La Esperanza Station, Campo Grande Station, Central Repair Workshops, Railway Corridor).

THE "CONVENIO 2003" (THE AGREEMENT OF 2003)

An agreement was signed by the President of the Regional Government of Castile & Leon, the Minister for Development of the Central Government, the Mayor of Valladolid and the Presidents of RENFE and GIF on 6 November 2002. The said agreement was officially published in the BOE, the official state bulletin, in January 2003[8].

Its main expression was the creation of the enterprise "Valladolid Alta Velocidad 2003 S.A. (VAV)"[9]. The agreement stated the necessary reform of the unused lands belonging to the railway, took urgent decisions to make way for the high speed railway line, and agreed to tunnel 5.5 kilometres under the city. The agreement sets out the interventions to be carried out:

- The construction of an eastern branch of the railway around Valladolid with Iberian width, with the creation of a Railway Complex with access to the international width.
- Repositioning of the Central Repairs Workshop (TCR) from Campo Grande and a new freight station to replace that of Argales in the new Railway Complex.
- The construction of a new CTT in the Railway Complex[10].
- The construction of a double high speed line with international width along the current path, which would go underground, between the point where the railway crosses Daniel del Olmo street in the south and the VA-100 ring road to the north, to facilitate the permeation of the route.
- The use of the University station, being transferred so as to remain overground.
- The construction of a new bus station in Campo Grande, depending on the Regional Government and the City Council, to replace the current one in Puente Colgante street.

The City Council commits itself to ceding the corresponding municipal rights to build in order to cover the investments made.

THE CITY COUNCIL'S DOUBTS AND HESITANCE

The development of the project in the hands of the City Council is not surprising. The City Council did not hold the majority of the shares in the VAV enterprise, while the weight of the 'Grupo Fomento' was double that of the municipality. Once the decision had been made to create the tunnel, it would seem that the process was dealt with directly by the VAV, with a single municipal interlocutor, namely the Mayor, with the assistance of a small number of collaborators. In this context of little to no information, a series of erratic interventions took place that demonstrate the insecurity with which the first steps are taken, as well as the lack of clear ideas on the part of the Mayor's group. First of all, there was a new call for ideas concerning the land that would be freed by putting the railway underground, repeating the topic that had been dealt with in the competition, some years before, organized by the College of Architects. Secondly, another competition for projects is held, which is won by Ricardo Bofill. Having signed the Convenio2003, it would seem that the management of the project was heading in one particular direction. However, a further competition was held, this time restricted, which was won by the well-known team of Richard Rogers. All these competitions demonstrate the about turns that the team of the municipal council are making. It can then be deduced that there were many difficulties to reach an agreement between the four members

of the VAV enterprise. Clearly, there was a distinct lack of clarity of ideas, much confusion and contradictions, with steps being taken forwards and backwards.

THE EXPRESSION OF THE FIRST PROJECTS - THE DIFFICULTY OF TRANSFORMING THE CITY COUNCIL'S PLANS INTO URBAN PLANNING: PGOU 2003.

The PGOU-2003 clearly takes on board the tunnel for the railway. It could not be otherwise, since the agreement to make the tunnel had been signed the previous year, in 2002, and had been made public in 2003.

The PGOU-2003 report refers to the improvements in the city of Valladolid through the ambitious urban projects, most of which had only been announced or begun but not finished. This had given rise to important public and private investments: the report mentions the Ring Roads, the new Waste Water Treatment Plant, the cultural facilities such as the Museum of Contemporary Art, and the improvements in the airport. Yet top of the list is the tunnel for the railway under the city and the arrival of the high speed train[11].

The PGOU-2003 modifies, little by little, the previous plan, adapting it to the day-to-day decisions. The plans are drawn including the first outlines of the tunnel, marking the land to be occupied by the by-pass, setting out the limits for the area where the freight station of La Esperanza and the TCR will be situated[12].

For the City Council, the most valuable asset is the tunnel: "The second milestone is the railway tunnel. The creation of an urban street where the railway currently runs will reduce the pressure on the main arteries of the surrounding area, turning them into local streets instead of major thoroughfares. It will also eliminate the bottlenecks that occur in the roads currently running under the railway and will provide a new north-south axis of the city connecting the residential areas as a support for the exterior position of the ring roads"[13].

Fig. 2. The railway and the divided city

Fig. 3. Site area: Comparative scale. From the Richard Rogers Plan.

The other essential aspect in the PGOU-2003 is the gigantic new urban growth land classification around the outskirts of the city, with the so-called Homogeneous Areas. This made the transformation of 3,400 hectares from rural to urban land and the construction of 238,000 new houses possible. It would mean, if all those houses were built, an increase of 171% in the city's housing stock[14]. This would defy all logic, if the population growth and the migratory movements for the city in previous years were taken into account.

CAPITAL GAINS AND BUILDING RIGHTS AS A WAY TO FINANCE THE WORKS

Funding the work through capital gains was clearly expressed in several documents from that time; and that idea was always accompanied by another, that the works would not cost the taxpayer a single euro. The first agreement stated that the arrival of the AVE to the city of Valladolid was an opportunity to place a value on the lands of the railway, and this would generate a great amount of capital gains[15]. The argument used in the official documents to justify the use of capital gains to fund the works was very imprecise: there was no explanation of the source of such capital gains, they simply existed; neither was there any explanation of the amount of the said capital gains. There was no economic calculation analysing in detail the capital gains of each plot of land. What is clear is that the 'Grupo Fomento' (ADIF & RENFE), who owned the plots, took over the ownership of the said capital gains and would use them to carry out the transformation of the Railways Network. What is even stranger is that, as the works of the VAV

enterprise would benefit the municipality, the City Council will cede to the said Enterprise the corresponding urban use[16]. The question is that the investment in railway infrastructures would seemingly generate capital gains that would equal the investment made, and the agency or entity that constructs the said infrastructures would apparently have the right to obtain the money invested by taking ownership of the said capital gains. There would be no deficit in the operation, only a surplus is contemplated, a surplus which would be invested in improving the railway[17].

In order to materialize the capital gains of some plots, such as those of the Workshops, it was necessary to transfer the industrial repair activity and, to do so, the future capital gains were needed. The problem was that the money for the transfer was needed immediately, while the capital gains from the land occupied by the Workshops could only be materialized when the plot of land was empty. In principle, it seems simple to solve through credit from a bank. Yet this problem was not dealt with in the agreements; no-one wanted to see it, but it was an element that would contribute to making the situation more difficult. On the other hand, the Workshops were still functioning, so there were negotiations prior to the transfer between the various parts and agreements had to be made with the workers.

There is no accounting of the capital gains generated, neither how much, where, or why, to indicate which of them came from investments or improvements in the railway line, or which came from the work of the citizens of Valladolid or the private capital investments in industry or commerce over more than a century and a half. There are no details about the capital gains that could be materialized in the short term, as the plots of land had no current activity or the capital gains that could only be realized following the transfer, in the long term. There is a certain naivety in the arguments, as no conditions are imposed on the materialization of these capital gains; as if the only condition were to collect them, as if they could be harvested at any time or place, as if they were limitless. What is absurd about this argumentation is that the capital gains, in the end, were finally authorized (not materialized) by the City Council with building rights that the Council awarded through city planning. In this case, the maximum building permission was awarded, the maximum permitted by the Urban Development Law of Castile & Leon, 1 m2/m2. So the said building rights, instead of depending on the conditions of the urban network (the area's building typology, type of streets, orientation, historical era of building, current problems, etc.), they were linked to the future investments that would be made and to the debt contracted by the entity that was to pay for the infrastructures.

In the case of the bus station, the idea was to build a new one underground, to be undertaken by the Regional Government of Castile & Leon, at a new site not needed for the railway. The demolition of the old bus station and the construction of the new one would be paid for by taking advantage of the rights to build allocated to the land left vacant from the old bus station. It was understood that these rights would be sufficiently high as to be able to award uses depending on the type of work projected, the materials or the land area that the new bus station would occupy, instead of depending on the quantity of residential buildings the urban network would be able to contain. The building conditions for the future housing depended

on how the new bus station was to be constructed. If the housing density figures from this operation were exaggerated and, consequently, the resulting quality of the residential urban space was to be reduced or simply to become dysfunctional, this did not matter. The waste of energy that occurred with this intervention was not considered either.

Consequently, with such ideas, the Economic Funding Study of the PGOU-2003 did not contemplate any amount dedicated to the tunnelling or the transformation of the railway network. According to this document, the tunnel did not require funding, since the total amount of the expenditure would be funded by the sale of the land. Not even the amount of interest to be paid for the credit was contemplated; a situation very far from reality.

THE ROGERS PLAN

The team to write the draft of the special plan was chosen by means of a new restricted architectural competition by invitation only. It was called the Plan Rogers as it was finally awarded to a team that included the famous architect Richard Rogers. Other participants in that team were IDOM and Vidal & Associates Architects[18].

The Plan Rogers is a serious piece of work and, in general, thorough. However, the problem mainly lay in two questions that would lead to failure: the optimistic economic forecasts and the foreseen timetable for carrying out the work. According to the Law, the plans had to be justified in a document, called the Economic Funding Study, setting out the economic viability of the works, the costs and the sources of funding. It is a legal obligation and the Plan Rogers effectively complies with this obligation and has such a study. The central idea of the Plan repeated what said before, to use the land no longer needed by the railway to construct houses, shops, office buildings and other constructions, the sale of the old railway plots, now dedicated to other lucrative uses had a detailed plan of stages that marked out a rhythm for income and expenditure, as the works progressed.

The first problem was the high value given to the real estate products to be sold in the future. The repercussion value of free housing was fixed at 1,300 Euros/m2, and for VPO (protected council purchases) 300 Euros/m2. The high value stated was completely unrealistic and was based on calculations from a market that was then greatly overestimated, supposing a progressive upward trend. It was considered that the land freed by the railway tunnel and in particular by the Workshops of RENFE would turn into a new urban centre and, thus, they were attributed the same values that at that moment were assigned to the most expensive areas of the city.

Proof of the unrealistic valuation of the land is the calculation that was done some years later. In the Economic Funding Study of the PGOU-2020, a calculation was made of the repercussion values for the different uses. In the case of free housing, the value was 393 Euros/m2, and for VPO 315 Euros/m2. These figures are quite different and more realistic than those set out in the Plan Rogers[19].

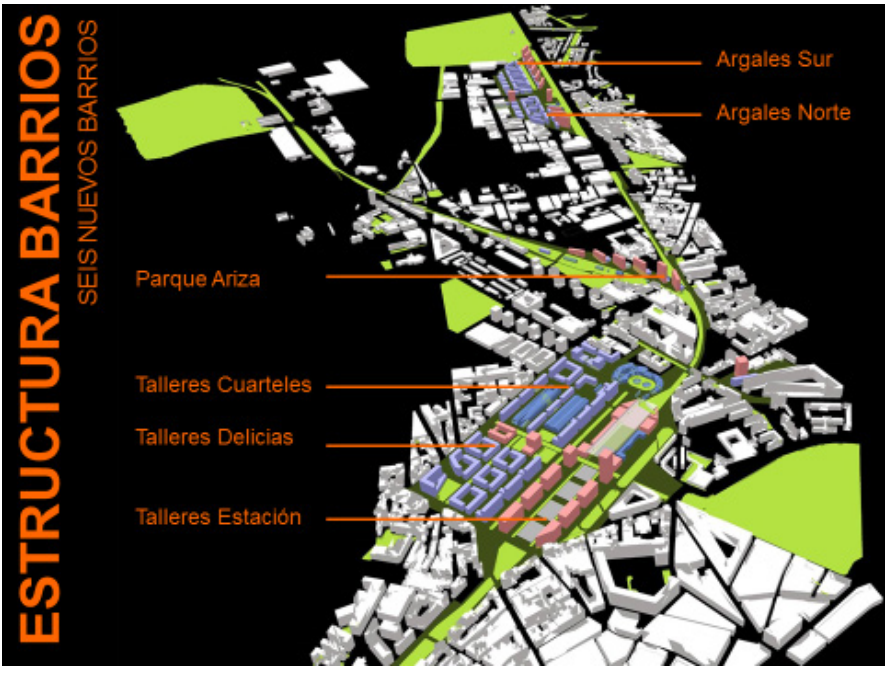

Fig. 4. Image from the Richard Rogers Project

The second problem was the Plan of Stages[20]. It must be said that the timetable for the works was greatly conditioned by the terms of the Agreement of 2003, which had a clause stating that all the economic resources obtained by the Enterprise should be used first of all for the works on the railways, with the following order of priority: the East Variant, repositioning the Railway Workshops of the TCR, the construction of a new Freight Station and a new CTT, the tunnel and transversal accessibility; then, after all that had been concluded, work could then start on building on the newly freed land[21]. Not surprisingly, not one plot of land was sold because, in addition to the economic crisis, the timetable for carrying out the work on the railway was delayed, without any date being set for building on the freed land. Even today, these plots of land are still not manageable from the point of view of urban planning and cannot be built on; with such a situation, no entrepreneur or investor would buy the plots. The Plan Rogers contains an essential contradiction in the Plan of Stages: it clearly establishes the possibility of selling plots from the start of the operation, while also establishing that the urbanization that would allow the commercialization of the said plots separately would be carried out at the end of the process, after having completed all the work on the railway. Thus, we have that, according to the Plan Rogers, the first plots sold would bring in 35.41 million Euros in 2007, while the urbanization works on the Intervention Unit nº 1 would finish in 2010. Intervention Units 2 and 3 would finish in 2013 while 4 and 5 would be completed in 2015, one year after having supposedly sold all the plots. We have to conclude that when, in the Plan of Stages, they use the term "Optimistic Tendency Scenario", we are seeing a veiled criticism by the draft writers of the judgments of the Enterprise "Valladolid Alta Velocidad-2003 S.A.". In effect,

when the Plan of Stages is qualified as "optimistic", this means that the team had worked with another pessimistic scenario, that another one in between was also elaborated, and it was this third one that the team would have chosen (if not because there were municipal elections in 2015, so such a circumstance determined that the Plan of Stages should be "optimistic").

Unfortunately, the plan failed completely. It is sufficient to say that, according to the Plan of Stages of the Plan Rogers, on 31 December 2014, all the plots of land should have been sold, so that at that time the amount of 708 million Euros would be available in the accounts of the Enterprise VAV. Nevertheless, when the new corporation took up office following the elections of 2015, not one square meter of land had been sold[22]. So, instead of a surplus of 80.2 million Euros, as forecast, there was a debt of 404 million Euros. Furthermore, much of the work on the railway had been stopped and the timetable had not been kept to at all. For instance, the by-pass was not finished, although it should have been completed in 2010, four years before, while the tunnel had not even been started, although it should have been ready in 2012, three years before[23].

THE ECONOMIC CRISIS AND THE COMFORT LETTER

The economic crisis that started in 2008 hit these provisions hard and signified the end of the Plan of Stages. The lack of funding caused the Consortium to fall into debt much more than even the most pessimistic had envisaged[24]. Obviously, according to the opinion of some, the financial difficulties of the operation were hidden from the Corporation and the citizens, with no information being given concerning the steps taken to obtain the loans; what is more, the Mayor assumed competences he did not have to increase the amount of the loans. In fact, the banks that had lent money to the Enterprise VAV demanded a document called the "comfort letter". This was to guarantee the payments of the loans and the document was signed by the Mayor, successively, in 2008, 2010 and 2011, so as to obtain the necessary funding up to a maximum of 400 million Euros. The "comfort letter" signed by the Mayor accepting the loan should have been agreed by the City Council, while the Council's comptroller and the Regional Government should have been informed. Such conduct was taken to court and the Mayor was finally not guilty, following his justification of ignorance of the legal procedures in these cases. Nevertheless, innocent or guilty, many people held the opinion that the Mayor had not wished to inform the Council or the citizens of the difficulties. To make such problems public would have been to recognize failure just a few months before the elections of 2011[25].

In other Spanish cities, some projects of the same type built by ADIF in the same years were affected by the economic crisis; one example being the construction of the high speed railway tunnel between the Barcelona stations of Sants and La Sagrera[26]. The tunnel had an initial cost of 179.3 million Euros and a length of 5.64 Km[27]. The final cost was 236 million Euros, due to the lack of any consideration of the risks and problems derived from the route and the use of important safety measures to consolidate the land beneath such singular buildings as the 'Sagrada Familia' (Church of the Holy Family) or the Fang Tower[28].

THE (UN)REALITY OF THE REAL ESTATE BUSINESS

What is true is that the investors had concentrated on other areas of the City of Valladolid and the surrounding municipalities. In the PGOU-2003, the so-called Homogeneous Areas had been classified; large rural areas, most situated outside the ring roads, with a huge supply of future housing. The construction of around 60,000 new houses was authorized, most of them of low density together with shopping malls, industry and other uses. This resulted in the transformation of 3,400 hectares of rural farmland into urban land. Then began a long legal battle against the City Council by Ecologistas en Acción, in which they won numerous cases brought against the Council. For over ten years, more and more sentences appeared against the City Council's plan and the courts cancelled most of the Homogeneous Areas. Not only were they declared null and void, but later demands for compensation for the economic losses suffered by the investors were also thrown out. The surrealism of the municipal city planning and the investors became clear during this long legal battle. It also explained the investors' rejection of other areas that were apparently less profitable[29]. At the same time, there arose within Spanish society much criticism of wastefulness in infrastructures, which is certainly not an exclusively Spanish phenomenon, but the economic crisis put the lack of any social return of many recent projects in the spotlight of public opinion and showed that it is not enough to invest in infrastructure such as high-speed rail to obtain economic development[30].

THE NEW "CONVENIO 2017" (AGREEMENT 2017)

The new Corporation that emerged after the municipal elections of 2015, seeing the financial problems that existed, at first proposed sending the High Speed Society into bankruptcy, considering the large amount of the debt and the lack of resources to pay them all in the short term[31]. Later, following a long period of reflection, the new Corporation reviewed the records of the VAV Enterprise and made several changes, which were set out in the new Agreement signed in 2017: the most important change was to renounce the tunnel for the integration works of the railway in the city, which were clearly cheaper. A new Plan of Stages was established projecting work until 2033; the secrecy was ended with the publication of reports concerning and agreements with the VAV, such as the situation of the works, the economic study of the land valuations or the renegotiation of the debt, among others.

THE NEW IDEAS FOR INTEGRATION THROUGH A SKETCH

The plans of the City Council for the integration were initially published in the local press, where the interventions were summarized: it consists of 17 interventions providing around twenty underpasses; the railway traffic will be reduced, with only passenger trains crossing the city, sending the freight trains around the by-pass; the number of tracks and the space the railway occupies would be reduced to make way for cycle-lanes on both sides; and the pedestrian underpasses would be improved, establishing systems to eliminate blind areas; the retaining walls would be completely replaced with light fences that can be seen through[32].

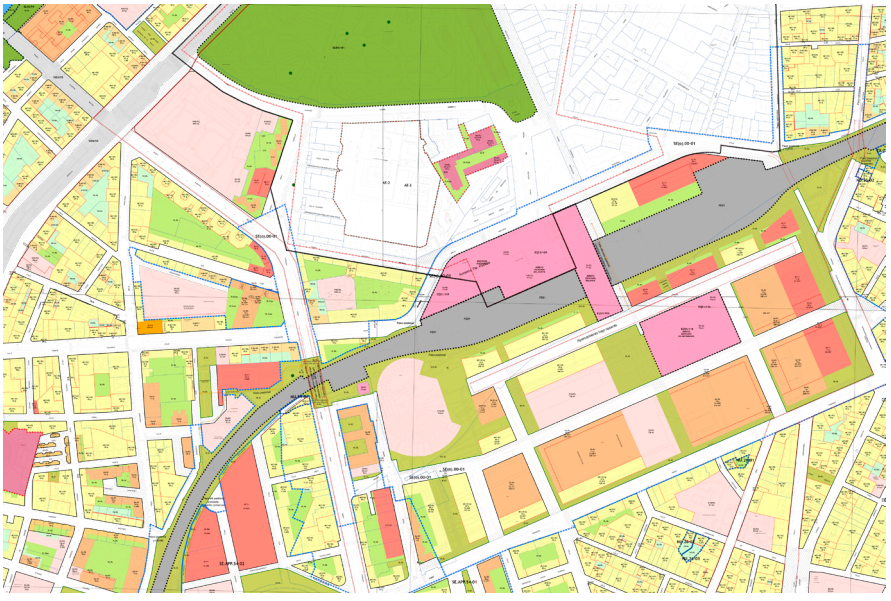

Fig. 5. Fragment of the PGOU-2020, in which it is possible to see the planning for the central plot of land following, with only small changes, the planning established by the Plan Rogers.

THE PGOU-2020 AND THE PLAN ROGERS

Three years after these first ideas, the new PGOU-2020 was approved. It included what was the Plan Rogers in a new planning figure, the SE(o).00-01, a detailed sector plan[33].

The PGOU-2020 follows quite faithfully the proposals of the Plan Rogers, and it is included in the new documentation, but with corrections, some of them quite deep; thus a new development plan was not necessary, as the existing one had been carried out at the time. Nevertheless, there are differences: the first is that there is now no tunnel and it replaced by the so-called "integration of the railway in the city"; the most important point being the new underpasses for both cars and pedestrians that appear sketched out in the Urban Plans at a scale of 1/1000.

The most important changes in the building work come with the maximum heights, the urban form and the mixture of typologies[34]. It is worth noting that, in the definitive approval of the PGOU-2020, the building potential of the Urban Unit was modified[35], passing from 1 m2/m2 to 0.80 m2/m2. This reduction was made on accepting the allegations received during the period of public information and could be interpreted as a consequence of the reduction in costs due to the suppression of the tunnel: fewer costs, less building potential. This 20% reduction in the building potential due to the suppression of the tunnel confirms the fact that the tunnel was only a small part of the entire operation, even though it had attracted most of the attention during the many debates.

THE URBAN PROJECT

The transformation of the old railway infrastructure and the insertion of other new infrastructures in the urban fabric are extremely complex. It is not solely a question of the railways; it is necessary to take into account the fact that, in the end, it is a question of creating a high quality city. It is necessary to create neighbourhoods that work, which can be lived in, and which are internally structured and well connected to the neighbourhoods around them. These mixed railway projects, as they were formulated from the start, are prey to economic and political tensions, as well as time restraints, arising from the accounts of the railway operation, that influence a bad urban result or the impossibility of reaching any result. It is necessary to break the economic logic that leads to the concentration of a great development potential in the plots of land in the city centres, simply because there the repercussions of the value of the land in such areas is so great. The historic urban fabric of cities is extremely fragile and the appearance of very large buildings on enormous plots and compositions that are far distant from their surroundings can break the balance of the whole. These operations are carried out on a grand economic scale and often end up breaking the area's own urban scale. The great Spanish railway company acts as a giant that imposes a scale of urban interventions on small cities. Not only is the urban scale broken, it even overwhelms the economic capacity of the citizens and local development agents[36].

It is necessary to partition the project so it can be manageable on the basis of the city's logic in order to respect the characteristics of the urban space; the great urban intervention has to be split up into small projects that can be dealt with on a small scale; in the economic sphere, it is necessary to make the costs adequate for the size of the economy of the citizens and local enterprises in the sector and to harmonise with the existing market.

CONCLUSIONS

The operation, the so-called railway tunnelling in Valladolid, is primarily a set of projects with serious consequences for city planning that significantly restructure and change the railway system in the city over 25 years, modifying the use of large areas of the urban centre. The visible part that has been working on the citizens' collective imagination is the promise to put the railway line underground. However, accompanying this so far unrealized project is a number of operations that affect the remodelling of the city's central areas and the construction of large infrastructures.

The institutions that have participated in the design of the entire set of operations based the funding of the works on the creation of building rights, without considering what was most advantageous for the city while ignoring the foreseeable behaviour of investors and the reality of the housing market, which inevitably led to delays within the project.

Everything would seem to indicate, at least in the aspect of the financial calculations, that those drawing up the draft for the urban projects took on board the accounts of the City Council, probably forced by the demands of the contractor and the circumstances of the contract,

without any kind of criticism. Certainly, the City Council itself established the calculations concerning income, expenditure and the timetable as being "untouchable". In any case, it should be pointed out that there was no criticism whatsoever of these figures in the planning documents. At most, there is a veiled doubt expressed in the Plan of Stages of the Plan Rogers. We can therefore say that these studies were at least, rather imprudent.

Politics determined the timetable of the plans. The elections also influenced the timings in the Plan of Stages. The works had to be completed shortly before the elections so that the citizens would vote in consequence, on seeing how "good" the administration was. This was a further cause that contributed to the plan's failure.

It was a mistake to understand the intervention as a rigid block. It would have been better to divide the project into smaller pieces and over a longer period of time, establishing a flexible, long term programme that could be accelerated or slowed down depending on the city's necessities and its capacity to pay. The economic and urban scales must be harmonised.

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c-2-rec-72-2017-09-03-2018-47862903 [Consulted on 25-02-2022]

IMAGE SOURCES

Fig. 1 José Luis Sainz Guerra.
Fig. 2 José Luis Sainz Guerra.
Fig. 3 Richard Rogers Parnetship, Vidal Sociados, IDOM
Fig. 4 Richard Rogers Parnetship, Vidal Sociados, IDOM
Fig. 5 Ecologistas en Acción.
Fig. 6 PGOU-2020.

DISCLOSURE STATEMENT

No potential conflict of interest was reported by the author.

NOTES ON CONTRIBUTOR(S)

José Luis Sainz Guerra, Architect from the Universidad Politécnica de Madrid and Doctor of Architecture from the Universidad de Valladolid. He has been a professor of Urban Planning and Territory Planning at the Valladolid Higher Technical School of Architecture since 1980 until 2021.

Alicia Sainz Esteban, Doctor of Architecture from the Universidad de Valladolid in 2017. She has worked on several research projects related to architectural heritage and urban planning. Likewise, she has made publications related to medieval defensive architecture as well as traditional architecture. She currently works in the technical advice section of the Official College of Architects of Castilla y León Este.

Rosario del Caz Enjuto, Architect from the Universidad de Valladolid (1991) and PhD in architecture from the same University (1996). She has been a Professor of Urban Planning and Territory Planning at the School of Architecture of Valladolid, since 2002.

Translator: **Alan Hynds** (BA, Dip. TEFL)

ENDNOTES

1. The role played by city planning has rarely been that of coordinating and leading the changes; rather it has been a process of incorporating sectorial plans into the general plan. City planning, in this context, means the necessary judicial-administrative process to bring to fruition the decisions taken in the railway sector, guaranteeing the economic value of the land, as well as the commitment to legality, rather than a global urban proposal for the entire city. In a context of planning crisis, urban plans have turned into a number of sectorial plans (traffic, housing, railways and industrial areas), often boosted by the demands or the offers of the various ministries. Ramón López Lucio: "A modo de introducción: algunas cuestiones en torno a la transformación de Barcelona 92. Ciudad y Territorio. Nº 93.
2. Luis Moya: "Cirugía urbana con láser y colonización de la ciudad. Pasillos verdes vs. la operación de Chamartín de Madrid". En José Luis Sainz Guerra (Coord.): La remodelación de la ciudad europea. Universidad de Valladolid. Valladolid, 2007.
3. The cities involved were Alicante, Almería, Barcelona, Cartagena, Gijón, León, Logroño, Murcia, Palencia, Valencia, Valladolid, Vitoria y Zaragoza. Tribunal de Cuentas: Informe de Fiscalización de la actividad de las sociedades públicas de integración del ferrocarril participadas por ADIF-Alta Velocidad, a 31 de diciembre de 2016.
4. Ibidem. Cuadro nº 3.
5. Ibidem. Cuadro nº 3.
6. See the following texts: Ayuntamiento de Valladolid: Valladolid, historia de una ciudad. Vol. 3. La ciudad contemporánea. Valladolid, 1999. Pablo Gigosos; Manuel Saravia: Arquitectura y urbanismo de Valladolid en el siglo XX. Historia de Valladolid VIII-2. Ateneo de Valladolid. Valladolid, 1997. José Luis Sainz Guerra (Coord.): La remodelación de la ciudad europea. Universidad de Valladolid. Valladolid, 2007. José Antonio Ruiz Díaz: Castilla y León: infraestructuras para el siglo XXI. Cámara de Contratistas. Valladolid, 1996.
7. In the first years of the project, numerous initiatives were undertaken that cannot be summarized here. Those interested can find the pertinent information in such publications as: Basilio Calderón; José Luis Sainz Guerra; José Luis García Cuesta: Soterramiento del ferrocarril y transformaciones urbanísticas en Valladolid. Universidad de Valladolid. Departamento de Geografía. 2003.
8. First.—The Minister for Development, through the Secretary of State for Infrastructures, as part of the High Speed Program of the Infrastructures Plan of 2000-2007, is developing the remodeling of the railway system in Valladolid. Convenio 2003 (Agreement 2003). B.O.E. nº 129, 30 May 2003: 21101.
9. The enterprise "Valladolid Alta Velocidad S.A." was made up of the 'Grupo Fomento'with 50% of the shares (which includes RENFE 25%, ADIF 25%, both state owned enterprises), the Regional Government of Castile & Leon with 25%, and the City Council of Valladolid with the other 25%. The document of association of the Commercial Entity "Valladolid Alta Velocidad 2003, S.A." is dated 10 January 2003. It states that "the basic purpose of the society is to develop the works derived from the transformation of the railway network and to promote the urban transformation derived from the abovementioned interventions". As a commercial entity it has its own legislation. The ultimate goal of the society is to enable the management (promotion, contracting, payment, funding, etc.) of the Governing Board with the same agility as a commercial enterprise so as to be able to carry out the necessary works.
10. The CTT is the Technical Treatment Centre (Convenio 2003), also called the New Integral Maintenance Base (Convenio 2017). The term New Railway Complex is also used, and this includes the New Integral Maintenance Base, the New Freight Terminal, Redalsa and the Rail Technology Centre (Convenio 2017).
11. Memoria, PGOU-2003. 80.
12. Ibid.107-108.
13. Ibid. 188-189.
14. "The new urban land (Suelo Urbanizable No Delimitado, under the terms of Spanish city planning law) is divided into 15 Homogeneous Areas whose surface area oscillates between the 10.86 hectares of Zamadueñas and the 662.95 hectares of Prado Palacio, totaling 3,407.87 hectares; of which 2,963.87 hectares are qualified as being for residential use, which means between 102,403 and 238,942 houses, according to the density with which the corresponding Partial Plans were approved". Memoria. PGOU-2003.BOCYL. 27-02-2004. 5.
15. "The signatory administrations are aware that putting a value on the land not needed for the railway will allow a series of economic capital gains which, adequately reinvested, could be used to pay for the necessary work". Convenio 2003. B.O.E. nº 129, 30 May 2003. 21101.
16. "Five.—As the works are for the benefit of the municipality of Valladolid, the City Council will cede, to the Enterprise, by means of the necessary procedures, the corresponding municipal rights to build, in order to pay for the investments made in the present terms (...)". Convenio 2003 (Agreement 2003). B.O.E. nº 129, 30 May 2003. 21101.

17. The example of the arrival of the AVE and the reform of the land occupied by the railway is important for the dominant role of the economic argument, with the application as the central axis of the reflection concerning the recuperation and monetarization of the capital gains generated in the city. As for city planning, the uncritical acceptance of the supposed funding should be pointed out. No reasonable doubts over the unrealistic calculations of the City Council were established. The city planning, in particular the so-called Plan Rogers and the 2007 General Urban Plan (PGOU-2007), demonstrate how the draft writers, specialists in the subject, omitted essential elements from the financial bases. The lack of any verification concerning the economic principles of the plan became the norm. At the same time, no alternative funding possibilities were considered.
18. The teams that made proposals, besides the winner, were: Batlle & Roig, Ricardo Bofill, Foreign Office and Salvador Polo.
19. Estudio Económico Financiero (Economic Funding Study). PGOU-2020. 37.
20. In the document, the Plan of Stages is also called "Programa 1". *Modificación del Plan General y Plan Especial de la Red Ferroviaria Central de Valladolid. Estudio Económico Financiero*. (commonly known as the Plan Rogers). 13.
21. "Ten.—The Enterprise will define the Plan of Stages and the economic balance of the operation, taking into account that: A) All the economic resources obtained by the Enterprise as a consequence of the urban development of the land from RENFE will first of all be applied to payment of the work on the railway recounted in Annex 1 and to fund the working and financial of the interventions of the Enterprise, in the following order of priority: Exterior Eastern Variant of Valladolid in Iberian gauge. Repositioning of the Workshop installations of the TCR, the construction of a new Freight Station and the New CTT. The necessary railway works for the tunnel and the transversal accessibility. The construction of the New Passenger Railway Station in Campo Grande and its road access. B) Secondly, the resources will be applied to funding the urban city planning works in the freed land". B.O.E. nº 129, 30 May 2003. 21102.
22. At the time of writing, 14-04-2022, not one plot of land connected with the tunnel has been sold. Estudio Económico Financiero. *Modificación del Plan General y Plan Especial de la Red Ferroviaria Central de Valladolid*. 10.
23. See: Valladolid Alta Velocidad 2003. Funding needs. *Modificación del Plan General y Plan Especial de la Red Ferroviaria Central de Valladolid. Estudio Económico Financiero*. (commonly known as the Plan Rogers). 32 - 33.
24. The example of the arrival of the AVE and the reform of the land occupied by the railway is important for the dominant role of the economic argument, with the application as the central axis of the reflection concerning the recuperation and monetarization of the capital gains generated in the city. As for city planning, the uncritical acceptance of the supposed funding should be pointed out. No reasonable doubts over the unrealistic calculations of the City Council were established. The city planning, in particular the so-called Plan Rogers and the 2007 General Urban Plan (PGOU-2007), demonstrate how the draft writers, specialists in the subject, omitted essential elements from the financial bases. The lack of any verification concerning the economic principles of the plan became the norm. At the same time, no alternative funding possibilities were considered.
25. "Sr. León de la Riva (the Mayor) signed the said document (Comfort Letter) 26 January 2011 without informing any technical staff of the City Council or asking for a report from the legal team, omitting the necessary legal procedure, i.e., an intervention report that should analyze the capacity of the local entity to comply with the obligations that may derive from the operation, with the corresponding approval of the full City Council and the authorization of the corresponding organ of the Regional Government". Civil & Criminal High Court. Castile & Leon. *Sentence* 44/2018. 8.
26. "Mas y Rajoy estrenan el AVE a Figueres que conecta con Francia". *EL PAIS*. 08-01-2013. [Consulted on 02-06-2022].
27. "ADIF adjudica las obras del túnel Sants-La Sagrera a Sacyr por 179.3 millones". *EL PAIS*. 18-01-2008. [Consulted on 02-06-2022].
28. "Sants-Sagrera: el túnel más largo de Europa". Web page of Constructora Sacyr. https://www.sacyr.com/-/tunel-sants-sagrera. [Consulted on 03-06-2022]. See also: "Túnel Sants-La Sagrera. Misión cumplida". Revista Itransporte. Enero-febrero 2012: 10-11. [Consulted on 03-04-2022].
29. For instance, see the sentence of the Civil & Criminal High Court. Castile & Leon. 2112/2014. The High Court of Castile & Leon accepts the argument that the Partial Plan violated city planning laws as there was no need to build the 15,687 houses contemplated in the said Partial Plan. The land that made up the Homogeneous Area AH-1, of interest here, is classified as "rural land", and is legally protected. No justification has been presented to show that there is a need in the municipality to increase the available residential land, or that it is necessary to build 15,687 more houses. The evidence available to the Court demonstrates a fall in demand for new houses, while it has not been proven that the Partial Plan would satisfy the municipality's

housing needs.

30. The railway project by itself does not mean economic development; it has to be part of a reasonable economic, social and urban context. The investment in infrastructures provides a boost to the already existing enterprises, but it does not create anything new. The existence of a high speed train, although a necessary condition, is not sufficient for the municipalities that can benefit to see substantial improvements in their local and territorial economic structure. What is needed are very carefully planned interventions so that the said interventions will be positive for the urban space. The new infrastructures amplify and accelerate the pre-existing tendencies; yet, if they are merely real estate deals, then the result can be a failure. Juan Romero et al.: "Aproximación a la Geografía del despilfarro en España: balance de las últimas dos décadas". Boletín de la Asociación de Geógrafos Españoles, 77, 17-18. José Luis Sainz Guerra; Fernando Sánchez Mínguez: "The real estate 'Tsunami' in Spain. The administration of urban growth in the case of Arroyo de la Encomienda and Valladolid. Spain". Urban Research and Practice. Francis and Taylor, 2010.

31. "La sociedad encargada de financiar el soterramiento del ferrocarril en Valladolid irá al concurso de acreedores". El Economista.. 12-27-2016. [Consulted on 06-03-2022]. "The Company, which was going to finance the tunnel with the sale of the released land, does not have sufficient resources to face future maturities, nor for the payments of interest accrued on a loan subscribed for 404 million".

32. "The integration of the railway will include eight kilometers of pedestrian walks and cycle-lanes". *El Norte de Castilla.* 20-08-2017. See also Manuel Saravia: "Del incierto soterramiento a la razonable integración". *El Norte de Castilla*. 23-01-2022.

33. "The sectors with a detailed plan (SE(o)) are those in which both the general and the detailed plans are directly established by this PGOU in the urban plan corresponding to the Series D and E, and in the particular files of each one". DN-MV (01) Memoria Vinculante. *PGOU-2020*: 129.

34. Of note in the Plan Rogers was the 100 meter high tower (33 floors) of the Bus Station, which clearly broke the urban landscape in that area; the PGOU-2020 reduces its height to 19 floors and creates a large area of facilities in the rest of the plot. In the area of the Workshops, in the Plan Rogers, there were two 90 meter high towers (30 floors), when the highest buildings in the area closest to Campo Grande are around 40 meters (13 floors) and 20 meters (7 floors) to the south, close to the Delicias suburb; in the PGOU-2020, however, the typologies of the heights of the towers are kept similar to those of the area, reducing the maximum height almost to half that of the Plan Rogers. In the buildings to be constructed in the area of the Workshops closest to the centre, those corresponding to the towers have been reduced to 17 and 13 floors, called ES-T1, i.e., Singular Building and Tertiary 1. In the area of Redalsa, where the Plan Rogers proposed a tower with a maximum height of 46 meters (15 floors) and blocks of 20 meters (7 floors); the PGOU-2020 proposes closed blocks with a maximum height of 30 meters (10 floors). In the area of the Old Station of Ariza, the Plan Rogers proposed buildings with heights of 45, 30 and 20 meters (15, 10 and 7 floors); while in the PGOU-2020, the heights are similar with 15, 13, 11, 7 and 4 floors.

35. Informe de Alegaciones (Allegations Report). *PGOU-2020* : 5.

36. Joan Busquets: "Evolución del planeamiento urbanístico en los años ochenta en Barcelona. Del Plan General Metropolitano a la recuperación urbana de la ciudad". *Ciudad y Territorio*. Nº 93. 1992: 32.

6 JULY: SESSION 3.4

TRANSNATIONAL HISTORIES.

Chair: Kaiyi Zhu, Yanchen Sun

Take Tianjin English Concession park as an example to analyze the form of Chinese modern parks and the emergence of park system

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Abstract

Tianjin is one of the most important trading ports in modern China. In the late Qing Dynasty, Tianjin has become the most important commodity distribution center in north China and is the gateway to Beijing. From its opening in 1860 to 1945, Tianjin had designated special concessions for nine countries, among which the British concession was the earliest, the largest, the most rapidly developed and the most influential. The British Concession became a rapid metropolis for decades under the administration of the Works Department of the British Concession. By virtue of hegemony and unequal treaties, foreign colonists could live in the concessions in the style of their home countries. The concession has become a "model of western society", importing western culture and lifestyle into Tianjin, which not only caused the direct collision, exchange, conflict and fusion of eastern and western cultures, but also influenced other concessions. This study focuses on the changes of physical space brought about by the lifestyle of western colonists, the relationship between leisure sports and the formation of public space, the power struggle contained in public space under colonialism and nationalism, and the transformation process of public space from common interests to public interests. Westerners attach importance to physical exercise and sports is a custom handed down from the ancient Greek period. After industrialization in the 18th century, paying attention to leisure after work became an important change in western lifestyle, and the new lifestyle also brought spatial changes. From the end of the 19th century to the beginning of the 20th century, under the influence of the reform movement, the western parks shifted from the original natural landscape gardens focusing on natural scenery and beautiful environment to parks focusing on leisure and entertainment functions. Various sports facilities began to be set up in parks, such as stadiums, tennis courts, music pavilions and so on. The combination of sport and scenery constitutes a new concept for the park and recreation system. With the establishment of the concession, sports and leisure lifestyle was also brought to China and other Asian countries, becoming an important activity in the life of the concession and playing an important role in the social field of the concession. Take Tianjin as an example, the chairman of Tianjin Yingshang Jockey Club is usually the same person as the leader of Tianjin British Concession. Correspondingly, modern sports parks were also brought into the

concession, which affected the space form of the concession. This study to construction process a racetrack stadium and park in the British concession in Tianjin, as the research object, by watching sports and leisure culture prevalent in the concession analysis park, amusement park and so on has the modernity meaning of public space in China's produce process, analysis the parks and public Spaces affect how the city space in modern China.

Keywords

Public Space, Urban form Cross-cultural exchange, Colonization, Planning heritage

How to cite

Sun, Yuan, "Take Tianjin English Concession park as an example to analyze the form of Chinese modern parks and the emergence of park system". In Carola Hein (ed.), *International Planning History Society Proceedings*, 19th IPHS Conference, City-Space-Transformation, TU Delft, 5 - 6 July, 2022, TU Delft Open, 2022.

Global exchanges regarding the adaptive reuse of urban watersides in port cities

Comparing recent efforts in Shanghai with cases in New York and Rotterdam

Harry den Hartog
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Abstract

The subtitle of Shanghai's latest Master Plan is "Striving for an Excellent Global City". According to this master plan Shanghai wants to compete, and perhaps even surpass other global cities such as New York, London, Paris, Singapore, and Tokyo in terms of economy, image, and quality of life. One of the key projects to realize this goal is the ambitious transformation of no less then 120 (!) kilometers of waterfront. Almost half of this extreme large length has already been realized today in a period of less than five years. How did Shanghai manage this, while it took other world ports as New York and Rotterdam more than a decade to realize much shorter tracks? What are the achieved qualities and mutual lessons, regarding quality of public space, ecology, economic and spatial impact, flood defense, and preservation of industrial heritage? The urban pattern and functionalities in these three port city cases (Shanghai - China, Rotterdam - Europe, New York - North America) show many similarities in their physical appearance, but also many differences (water management, governance, governance, historical context, etc.). Are there mutual lessons, and how can we learn from the different approaches in these dissimilar social-cultural and economical contexts? This paper will mobilize insights from the academic field of Sustainability Transitions ¬– specifically on expectations, experimentation and innovation journeys – to show how planning ambitions are translated into realities on the ground during the planning and implementation process. This research will especially focus on the different conditions that influence implementation results and tries to extract mutual lessons for these three cases and others.

Keywords

comprehensive planning, global cities, port cities, transnationalism, urban transitions, urban transnationalism

How to cite

den Hartog, Harry, "Global exchanges regarding the adaptive reuse of urban watersides in port cities:

Comparing recent efforts in Shanghai with cases in New York and Rotterdam". In Carola Hein (ed.), *International Planning History Society Proceedings*, 19th IPHS Conference, City-Space-Transformation, TU Delft, 5 - 6 July, 2022, TU Delft Open, 2022.

Planning Diffusion in Foreign Concessions and Chinese Area of Early Modern Tianjin (1860-1945)

Yanchen Sun, Kun Song
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Tianjin University

Abstract

After the Second Opium War, in 1860, the Chinese government was forced to open a series of cities including Tianjin as treaty ports. Until 1902, the UK, France, Germany, Japan, Russia, Belgium, Italy, and Austria-Hungary had each set up a concession□□□□ in Tianjin, where they enjoyed extraterritorial, administrative, policing and taxation rights. At the same time, the Chinese area (□□) of Tianjin was still under the jurisdiction of local government. With the most foreign concessions in modern China, Tianjin served as a junction of Western and Japanese planning ideas under multicultural background. This paper focuses on the spread of Western and Japanese planning ideas in Tianjin from 1860 to 1945. During this period, the concessions and the Chinese area coexisted in Tianjin, and the regime of the city repeatedly changed with the turbulent political situation of China. Based on Stephen V. Ward's planning diffusion theory, this paper points out the complication and diversity of planning diffusion types in Tianjin and explores the management systems and driving forces behind them. the paper provides an overview of urban planning of foreign concessions in Tianjin before 1937 by examining how the colonists applied Western planning ideas with their home country characteristics to the planning of concessions, which can be classified as "authoritarian imposition" and "contested imposition". Furthermore, it explores two planning activities in the Chinese area of Tianjin before 1937, the planning of the Hebei New District in the late Qing Dynasty and Material Construction Project for Tianjin Special Municipality City during the Nationalist Government period, examining their perspective motivations and the ways Western planning influenced them. In the Chinese area, the planning diffusion falls into "selective borrowing". Last but not least, it explores urban planning activities conducted by Japanese force in Tianjin during the Japanese Concession period (1898-1937) and Japanese Occupation period (1937-1945), highlighting the intermediary role of Japan in "contested imposing" Western planning ideas into Tianjin. In conclusion, this paper points out that multiple planning diffusion activities can happen within a single city when it is governed by different powers at the same time. With the existence of foreign concessions and the turbulence of local authorities, urban planning process in Tianjin was diverse and complex in planning diffusion in the first half of the 19th century, experiencing from foreign powers' authoritarian imposition to local governments' selective borrowing, and from practical level to theoretical level.

Keywords

Planning Diffusion, Modern Tianjin, Concessions, Chinese Area

How to cite

Sun, Yanchen; Song, Kun, "Planning Diffusion in Foreign Concessions and Chinese Area of Early Modern Tianjin (1860-1945)". In Carola Hein (ed.), *International Planning History Society Proceedings*, 19th IPHS Conference, City-Space-Transformation, TU Delft, 5 - 6 July, 2022, TU Delft Open, 2022.

The Resurgent Exclusion-oriented Approach in Shanghai's Heritage Conservation Practices

Kaiyi Zhu
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Abstract

The concept of modern heritage conservation was introduced to China in the late 19th century. Opening of treaty ports in 1842 brought transnational exchanges and flourishing urban landscape which are appreciated the most by exquisite elites. Discourse debate towards whether it is necessary to protect the foreign architectural legacies in Shanghai has been popular since the late 1980s; however, when multiple controversial urban heritage designed and built by foreign settlers in the early twentieth century were listed by national and local administration in 1989, such debate has been weakened in the mainstream media. With the rise of globalization in Shanghai, recognition of the history of foreign concessions is becoming ambiguous. In its recent published "Shanghai Master Plan (2017-2035): Striving for an Excellent Global City", the municipality of Shanghai specifies its goal to conserve historic and cultural heritage, in particular the entire urban heritage, including buildings complexes on the Bund and Shikumen Lilong housing and many others; furthermore, the concept evokes conservation of both intangible and tangible legacies related to the ancient Maritime Silk Road. Aiming at creating a global city, this series of goals seem work in line with universal principles. In the name of conservation of historic lilong neighborhoods and urban regeneration, the current urban practices reveal a phenome of radical gentrification, during which the middle class and community composed of foreign settlers are reclaiming access to the city center through the power of the government. In the on-going urban regeneration projects, to create high-end community for foreign residents has increasingly become an unapologetic highlight for urban design. Admittedly, the government's aim is to renovate historic districts that are in decline, but considering the selling possibility of the built product, high-end, exclusive and class-closed characters have become the mainstream of inner-city regeneration and renewal. Although, recent scholarship in Shanghai agrees to downplay the history of Shanghai's development influenced by colonialism, the dissenting voice from the public has never stopped, in particular once again they are abandoned by the inner city. This paper first examines the history of the development of lilong neighborhoods in Shanghai after the opening of treaty ports, and then analyzing the issues of project positioning by taking the recent urban regeneration projects located in the old French concessions of Huangpu District to reveal the fact of its gentrification and exclusion of indigenous residents. This paper argues that debates regarding values of urban legacies left over from the treaty ports era will continue, admitting and

facing up to both negative and positive effects of colonial history help to enlarge the practical scale and recognizing dimensions of urban heritage conservation in Shanghai. Understanding the complexity of urban transnationalism within the development of modern Shanghai is the core to solve the pending problems which are exposed in conservation of the controversial heritage, in particular to explain the confrontation between the indigenous and elite classes. "Shanghai Master Plan" being the guideline for urban planning strategies for the next several decades, it is necessary to vigilant, envisage and investigate its content from the perspective of history.

Keywords

controversial heritage, globalization, gentrification, post-colonialism, urban conservation, modern Shanghai

How to cite

Zhu, Kaiyi, "The Resurgent Exclusion-oriented Approach in Shanghai's Heritage Conservation Practices". In Carola Hein (ed.), *International Planning History Society Proceedings*, 19th IPHS Conference, City-Space-Transformation, TU Delft, 5 - 6 July, 2022, TU Delft Open, 2022.

6 JULY: SESSION 3.5

THE URBAN SOCIAL EXPERIENCE.

Chair: John Hanna

Racial segregation through road connection

The racial implications of urban development and planning in São Paulo in the mid twentieth century

Ana Barone
FAUUSP

Abstract

In São Paulo city, the reality of black population is not reflected in official data. However, urban projects had a great impact on this group since the birth of urbanism. In the republican period, the city growth process operated a silent racial segregation related to social and economic factors, that helped to increase the distance from their homes to the center and perpetuate the difficulty of both spatial and social mobility. This segregation followed its course throughout the twentieth century without being reported or discussed and was widely supported by the scarcity of official data on blacks in the city. Despite this silence, blacks themselves left their mark on the territory. In 1954, a group of activists who sought to expand black representation in the various spheres of social life founded the Black Cultural Association (Associação Cultural do Negro - ACN), an organization that lasted until 1976. In its archives, it is possible to consult the records of associates, with entries of name, affiliation, address, marital status, profession and others. These data allowed me to map the places where these politicized people lived. Confronting this mapping with a previous map drawn by sociologist Samuel Lowrie, based on a survey on color and race of children enrolled in municipal schools in 1938, allows the observation of important concentrations and displacements of black population in the period. The analysis of these data contributes to the perception of a phenomenon that cannot be seen through the census data. At the same time, in 1961, the Department of Urbanism of the City Hall published a volume called “Planejamento”. The volume is a compilation of works developed by the public city planning sector since 1957, organized around a schematic plan that integrates road improvements in the and regulatory proposals for the orientation of urban growth, with a clear intention of decongesting the central area and structuring the outskirts. However, the urban works implemented in the period are both connection and segregation structures. They made it possible to expel black groups previously centrally installed to areas outside the limits of the expanded center. The analysis of this material helps to understand the way in which the adopted urban policy intervened on the distribution of black population in the urban territory and contributed to the configuration indicated by the set of addresses of ACN members. Thus, in this communication, I intent to

present a research contribution unfold into two kinds of results. By the one hand, I will bring some relevant data about the presence, location and displacement of the black population in the city in a period for which little information on this subject is available. By the other, I will also show its relationship with the urban policy implemented in the period. In the order established by this policy, road structures became elements of connection and segregation, challenging the resilience of blacks in the city, now forced to cross huge distances between their places of living and the work and leisure areas of the city.

Keywords

Racial Segregation in São Paulo Brazil, Racial Segregation by Urban Planning, Black Cultural Association, Black's resilience in cities

How to cite

Barone, Ana, "Racial segregation through road connection: the racial implications of urban development and planning in São Paulo in the mid twentieth century". In Carola Hein (ed.), *International Planning History Society Proceedings*, 19th IPHS Conference, City-Space-Transformation, TU Delft, 5 - 6 July, 2022, TU Delft Open, 2022.

IQVU and the Right to the City
Brazilian redemocratization experience

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Abstract

This article seeks to understand how the construction of a Brazilian social indicator - the Quality of Urban Life Index of Belo Horizonte (IQVU-BH), used as an objective criterion for the distribution of resources of the Participatory Budget (OP). It seeks to demonstrate how the ideation of IQVU-BH in 1993 does not constitute an isolated fact; this is part of the experimentations made possible in the redemocratization of the country that, in order to respond to the struggles for urban reform, led to the very incorporation of the concept of Right to the City in Brazilian legislation. This article is structured, therefore, along two axes of inquiry: one that inserts the construction of IQVU in the course of incorporating the notion of the Right to the City into Brazilian legislation; another that analyses its distancing and proximity to the Lefebvrian concept from the comparison between its initial link with the OP of the management of Belo Horizonte (Brazil). Finally, the present work intends to demonstrate that the resonance of the Right to The City in IQVU only occurs when its employment occurs linked to the OP, as an instrument related to democratic and participatory management.

Keywords

Right to the City; Urban Quality of Life Index; Participatory Budget; urban management.

How to cite

Moura, Paula; Souza, Gisela; "IQVU and the Right to the City: Brazilian redemocratization experience". In Carola Hein (ed.), *International Planning History Society Proceedings*, 19th IPHS Conference, City-Space-Transformation, TU Delft, 5 - 6 July, 2022, TU Delft Open, 2022.

DOI: 10.7480/iphs.2022.1.6470

INTRODUCTION

The fight against the Military Dictatorship in Brazil (1964-1985) and by redemocratization, had as an important exponent the National Movement for Urban Reform (MNRU). Organized between the 1970s and 1980s, this movement brought together Brazilian intellectuals and popular leaders and inserted access to urban land and housing on its agenda. This movement expanded nationally with redemocratization and was fundamental for popular articulation during the debate process and elaboration of the New Federal Constitution of 1988 and for the drafting of the Bill that Instituted the Brazilian Urban Policy, the Statute of the City approved only in 2001. The Main Flag of the MNRU was the Right to the City.

Among the achievements of the MNRU during the redemocratization period is the attempt to expand the population's access to urban equipment and services through Brazilian urban legislation. The struggle for urban reform has consolidated the link between the demands of urban social movements and the marginalized population and the Right to the City – although there are different understandings about this notion. The period between the end of the 1980s and 2001 was marked by the movement of incorporation of democratic and participatory management in Brazilian municipalities.

It is in this context that one can perceive the intentions of incorporating the Right to the City in the indicators of construction, evaluation and monitoring of public policies. The process of construction of public policies involves, according to Souza (2006), plans, programs, projects and databases and, when put into action, they are subject to monitoring and evaluation systems. The use of indicators in the development and evaluation of public policies is common in different areas: environmental, mobility, social, health, education, security, housing, urban infrastructure, social development, among others.

One of the most widespread social indicators worldwide is the Human Development Index (HDI), which summarizes in one indicator the progress of three dimensions: income, education and health. Its creation objective was to present a counterpoint to gross domestic product (GDP), an index that considers only the economic dimension of development, to reflect more in a more real way the quality of life of a nation. Created in 1990 by Pakistani economists Mahbub ul Haq and Amartya Sen, the HDI has been used since 1993 by UNDP and has transformed the way to assess the social situation of the world's nations.

Although social indicators have become internationally known from the dissemination of the HDI, their conception does not date from this period. Paulo Sandroni (1994, p. 242, apud Rodrigues, 2010, p. 44) records that, in economic studies, the so-called index numbers – that is, ways of aggregating numerical information and transforming it into indicators and indices – date back to the first half of the 19th century. The expression social indicators, therefore, was first used in a paper published in 1966 by Raymond Bauer – as opposed to purely economic indicators. According to Bauer's definition, social indicators are "statistics, statistical series and all other forms of evidence that allow us to evaluate where we are and we are going in relation to our values and objectives" (BAUER, 1966, p.1). Research on social indicators expanded widely in the Between the 1960s and 1970s and resumed at the end of the 20th century after a

period of decline (MARANS, STIMSON, 2011).

In Brazil, the Urban Quality of Life Index of Belo Horizonte (IQVU-BH) was elaborated in the context of great innovation in the implementation of participatory management and planning instruments by the first management of the Workers' Party (PT) in Belo Horizonte – the sixth most populous municipality in Brazil and which at the time already had 2 million inhabitants. This index was conceived in a manner related to participatory budgeting, an instrument that would mark the first management of the PT after redemocratization and would be recognized internationally with one of the good practices highlighted by UN-Habitat 1996. The IQVU-BH is the object of study in this article, which aims to demonstrate that the ideation of this index is part of the bulge of the experiments of Brazilian redemocratization. It is investigated, therefore, whether it would be possible to codify the concept of Right to the City in an indicator used as a technical support and allows us to monitor public policies. For this, the intentions of hybridization between the Right to the City and IQVU-BH are used as documentary sources.

THE BRAZILIAN REDEMOCRATIZATION AND THE CONSTRUCTION OF IQVU-BH

The preparation of IQVU-BH began after the victory of Patrus Ananias, of the Workers' Party (PT), in the City of Belo Horizonte (PBH), in 1993. According to Bittar (1992), the "petista mode of governing" makes room for popular participation and, in this way, presents the reversal of priorities as a commitment to the most vulnerable areas, which start to receive greater visibility and contribution of resources. According to Junior (2001), in the first year of Patrus' management, social investment increased from 64.14% to 76.37% of the total investment resource. Bezerra (2019) adds that, in the 1990s, the PT sought to manage several Brazilian municipalities – such as Belo Horizonte, Porto Alegre and Belém – to promote popular participation and the reversal of priorities, with the concern to make them viable and enforceable. In addition to the expansion of the resources invested in social development, Patrus presented, in Belo Horizonte, the reversal of priorities as an opportunity for effective participation of the population in the decision-making of public administration.

The conception of IQVU takes place in a context of renewal of municipal technical staff, revision of the Municipal Master Plan (1993-1996) and construction of new participatory management and planning instruments. In this sense, it is based on the notion of inversion of priorities and is linked as a guiding instrument for the intra-urban distribution of municipal resources destined to Participatory Budgeting (OP).

In 2007, Yves Cabannes drew attention to the fact that, although the notion of inversion of priorities originated in the Brazilian debates, in each city, analyzed by him, there was a proper understanding of his agency. In this context, the French researcher highlighted as a reference to be followed by the experience of IQVU-BH. According to Cabannes (2007), this index would be able to guarantee a better articulation between the OP and territorial planning,

since it allows a "territorialized view of exclusion, poverty and well-being in the municipality" (CABANNES, 2007, p.36). More than twenty years after its implementation, IQVU continues to be pointed out as one of the main contributions of the Belo Horizonte OP to the national and international debate (AVRITZER, VAZ, 2014; SINTOMER et al, 2012).

The innovations brought by Belo Horizonte, such as the construction of the IQVU as an indicator of measure used to ensure the reversal of priorities, the housing dimension and the emphasis of the OP as an instrument of urban planning are elements that favor its differentiation in relation to Porto Alegre and, also, its international recognition (Oliveira, 2013).

In the national context, the conception of an index to guide the distribution of the OP's resources is part of – and anticipates – what Koga (2011) has named as the dawn of intraurban social indicators in Brazilian municipalities. From the mid-1990s a few years after the construction of the HDI, several Brazilian capitals sought to develop methods that would allow the visualization of intraurban inequality. IQVU-BH was developed by the team of the Center for Multidisciplinary Studies and Research of the Pontifical University of Minas Gerais, under the coordination of Maria Inês Nahas, through a contract signed with the City Hall of Belo Horizonte and was calculated based on aggregated and georeferenced data in a network of 81 Planning Units (UP) distributed throughout the municipality. In order to support a more equitable distribution of resources by participatory budgeting, the result of this process is the measurement of IQVU-BH for all UPs, the higher the index – whose values range from 0 to 1 – the better the supply and access to urban goods and services in that unit.

In the specific case of IQVU, three main moments were part of the application of the Delphi method: (i) the collection of the available data in the 13 Municipal Secretariats that assisted Nahas in the construction of the first list of variables presented to managers, for approval of the inclusion, or not, of each of them; (ii) a second consultation on the inclusion of variables, presenting the result of the first survey, for the final definition of the variables incorporated in the IQVU; (iii) the query for defining weights of variables using a spreadsheet called peer-to-peer comparison.

When analyzing the weights that resulted from this process, it is verified that, despite the lack of society's participation in the construction of IQVU, the main agendas of the social movements seem to have been considered by the managers. In particular, the importance given to the variable housing is highlighted, even surpassing the weights of urban infrastructure, health and education. This prioritization is the importance of social movements for housing in the political scenario of Belo Horizonte in the 1980s and 1990s, as well as its great penetration in patrus management, which culminated in the creation of the Municipal Housing Council in 1994, and a specific Participatory Budget to enable the financing of the production of Social Interest Housing managed by social movements by housing – the Participatory Housing Budget (OPH), 1995 (BEDÊ, 2005).

Variables/weights	Components
1- Supply (weight = 7.64)	1.1 - Supply equipment
	1.2 - Basic food basket
2 - Social assistance (weight = 1.79)	2.1 - Equipment
3 - Culture (weight = 3.17)	3.1 - Media
	3.2 - Cultural Heritage
	3.3 - Cultural equipment
	3.4 - Artistic-cultural programming
4 - Education (weight = 12.65)	4.1 - Preschool
	4.2 - 1st to 4th school grade
	4.3 - 5th to 8th school grades
	4.4 - High School
5 - Sports (weight = 3.05)	5.1 - Sports equipment
	5.2 - Sports promotions
6 - Housing (weight = 17.66)	6.1 - Quality of housing
7 - Urban infrastructure (weight = 15.75)	7.1 - Urban cleaning
	7.2 - Sanitation
	7.3 - Electricity
	7.4 - Telephony
	7.5 - Public transport
8 - Environment (weight = 6.19)	8.1 - Acoustic comfort
	8.2 - Air quality
	8.3 - Green area
9 - Health (weight = 13.72)	9.1 - Health care
	9.2 - Health surveillance
10 - Urban services (weight = 10.43)	10.1 - Personal services
	10.2 - Communication services
11 - urban security (weight = 7.95)	11.1 - Police assistance
	11.2 - Personal security
	11.3 - Asset security
	11.4 - Traffic safety
	11.5 - Housing security

Table 1. IQVU-BH of 1994. Source: Nahas, 2002.

IQVU-BH AND THE RIGHT TO THE CITY

For the present work, the concept of Right to the City is of interest as defined by the philosopher Henri Lefebvre[1] in 1968 – built in great cultural effervescence – as its progressive transformation into various uses and appropriations (cf. MARCUSE, 2009; NOBRE, et. al., 2018) and, in particular, in its incorporation into Brazilian legislation in the bulge of experiments made possible in the redemocratization of the country that sought to respond to the struggles for urban reform.

The Right to the City manifests itself according to Lefebvre as a "superior form of rights: right to freedom, individualization in socialization, habitat and living" (LEFEBVRE, 2001, p. 134). For the French author, this concept goes beyond issues related to the supply of goods and services and emphasizes acts and actions, practical-sensitive reality and social relations. The need for the city and urban life would be both the need for qualified places, concurrency and meeting – in which the value of use prevails over the value of exchange – and the need for time for these meetings and exchanges (LEFEBVRE, 2001).

The French philosopher inaugurated the discussion on the Right to the City on the eve of the student uprisings – Movement May 68 – initiated at the University of Nanterre, where Lefebvre was an influential professor, founder of the Institut de Sociologie Urbaine (ISU) who had been responsible for breaking with the tradition of urban sociology in Chicago (COSTES, 2009). In this specific context, academia and civil society have joined in a political and intellectual movement with global impact (SANCHEZ-CUENCA, 2019).

The expression Right to the City has, since its genesis, a theoretical-conceptual and other practice-claiming facet, a configuration that had never been lost (TAVOLARI, 2016). The Right to the City conceptualized by Lefebvre appears as the emancipation of the working class in relation to the production of the city by the capitalist system. It is about the recovery of the value of use of the city and the scale of daily life in an equitable, free, spontaneous and living relationship. The power of work and transformation of spaces is prioritized by those who actually inhabit the city, since the ruling classes transcend the experience "are everywhere and anywhere" (LEFEBVRE, 2001, p.118). Therefore, in addition to the criticism of socio-spatial exclusion in the capitalist city, the author reflects on the alienation of the masses in relation to the production of space and envisions a demercantilized and intensely democratic city and treats the Right to the City as a collective path of socio-spatial transformation (SANCHEZ-CUENCA, 2019).

The conjuncture of struggle for democracy and urban reform allowed a situation of peculiar appropriation of the Right to the City in Brazilian legislation. This is now associated in Brazil with the immediate demands of urban social movements and the most vulnerable population, such as access to water, electricity, housing and transportation; components incorporated into the IQVU-BH calculation. The notion of the Right to the City transcends that strictly associated with immediate demands for specific urban services when approaching democracy, citizenship, autonomy and social organization. It is in the context of this political and social effervescence of redemocratization that the National Movement for Urban Reform presented the Proposed Popular Amendment to the Draft Constitution (MOVIMENTO NACIONAL PELA REFORMA URBANA, 1987) requesting the inclusion of a chapter on urban rights, which established that:

- Art. 1 - Every citizen has the right to decent urban living conditions and social justice, forcing the State to ensure:
- I – Access to housing, public transportation, sanitation, electricity, public lighting, communications, education, health, leisure and safety, as well as preservation of environmental and cultural heritage;
- II - The democratic management of the city. Art. 2 - The right to decent urban living conditions conditions the exercise of the right of property to the social interest in the

> use of urban real estate, subordinates it to the principle of the state of necessity. (MOVIMENTO NACIONAL PELA REFORMA URBANA, 1987, p.1)

The reference to the "right to decent urban living conditions" reverberates the Right to the City. Lefebvre builds his argument by linking the city's need to urban life; which defines as the "need for qualified places, places of concurrency and meetings" and the "need for time for these meetings" (LEFEBVRE, 2001, p.105-106). The French philosopher even exchanges the expressions throughout his text, even stating that the Right to the City "can only be formulated as the right to urban life" (LEFEBVRE, 2001, p.118, griffin in the original). Another aspect that allows to see Lefebvre's theses is the proposition that the "right to decent urban living conditions" subordinates the right to property to the principle of the state of necessity; that is, it is a clear defense of the value of use of the city and its prevalence over the exchange value.

However, the incorporation in IQVU-BH of the components listed in item "I" of the Popular Amendment Proposal seems to us a response to the experiments experienced in the period of redemocratization that sought to incorporate the right to the City agenda into Brazilian legislation. Is the creation of IQVU-BH an attempt to translate the Right to the City? Despite its insertion in a larger conjuncture, the idea of translating the concept originally presented by Lefèbvre into an index seems to betray the French author at its deepest core. To what extent would the translation intended by this indicator therefore be feasible?

By dialoguing with the idea of ensuring fair distribution and access to the benefits of urbanization, IQVU approaches the notion of City Law incorporated in Brazilian legislation. However, IQVU takes a dubious position. At the same time that its construction process removes it from the Right to the City, since it was conceived exclusively by academics from the Center for Multidisciplinary Studies and Research of Pontifical Catholic University of Minas Gerais (PUC-MG) and managers of municipal departments without the participation of civil society; the use of this indicator in the OP for the equitable, judicious and socially just distribution of the resources made available instrumentalizes it in guaranteeing the right to work, to urban transformation.

However, from the perspective of the Lefebvrean concept, the right to work does not summarize the Right to the City. For the author, much more than moving around the city, enjoying urban spaces is essential to combat the alienation of the masses in relation to the production of space. That is, the experience related to the Right to the City depends on the appropriation of urban spaces by the population in a democratic way.

The search for an instrument to ensure greater balance in the supply and access to urban services could constitute a way for the enjoyment of the city. However, the idea of doing so by an index that condenses in itself the claim of scientificity goes against Lefebvre's criticism of urbanism. For the French philosopher, the Right to the City transcends objective and quantitative understanding, presenting itself, in general, as a subjective and utopian concept.

CONCLUSION

The perspective of the Right to the City in the discourse of the MNRU and in its Proposal for a Popular Amendment, incorporated into this concept a more practical and objective meaning, linking it to the offer and access of the population to the goods and services offered in urban space and the condition of dignified living in cities. On the other hand, although the derivations of the notion of Right to the City in the context of Brazilian redemocratization have in common citizen and democratic perspectives, the institutional understanding of the Right to the City and its link to urban planning deviates from Lefebvre's critical position.

In the context of the expansion of municipal autonomy after the Brazilian redemocratization and the management of Patrus Ananias of the Workers' Party (PT) in the City hall of Belo Horizonte, IQVU is built. In this sense, despite the possibility of quantifying, at first, the Right to the City of MNRU in an index that considers the supply and access to urban services, the premise of the participation of the population in the construction of these instruments would be essential for it to materialize from Lefebvre. f, on the one hand, the collaborative construction of IQVU was restricted to a specific group and conducted by a method that avoids the confrontation of ideas; on the other hand, the incorporation of IQVU-BH as an instrument of participatory budgeting transforms it into a mechanism for guaranteeing the right to work and, in this sense, brings it closer to the Right to the City.

The essentiality of the indicators for the technical-scientific approach to public policies and the success of IQVU-BH led Nahas to be invited, in the early 2000s, by the Ministry of Cities to conceive a similar index applicable throughout The Brazilian territory, the IQVU-BR. Although it did not have its final results published for political reasons and, also for this reason, it was not used as a technical instrument to support public policies, the work was widely known. In addition, the interest of municipalities in IQVU as a technical instrument to deal with the policy culminated in consulting work by Nahas for the municipalities of Porto Alegre, Vitória and Santo André, which wished to build similar instruments for municipal public policies.

The innovation of IQVU, however, is not restricted only to its incorporation into the OP or to the precursor character of its conception in the Brazilian context. When we compared it to other attempts to measure the quality of urban life, such as those presented in the international compendium organized by Marans and Simons (2011) we observed that, 17 years after the formulation of the IQVU, the use of GIS[2] for this was still considered a novelty, an expanding trend. There are also a few indices of urban quality of life in the first decade of the 2000s, and the use of segregated social indicators – classified as objective, subjective and environmental, is more common. Although the index for assessing quality of life in urban areas proposed by Blomquist et al. (1988) is preceding the IQVU-BH, its destination – the comparison between metropolitan areas of the USA – and its composition were very different from that developed in Belo Horizonte; it did not have the complexity of gathering 75 indicators weighted by a measure of accessibility into a single index, combining and spatializing data from diverse sources in an intra-urban network[3].

ENDNOTES

1. Henri Lefebvre was a French Marxist philosopher and sociologist and devoted himself to a rereading exercise critically situated in the time and space of Marxist thought. He is an indispensable author for this work for presenting for the first time in 1968 the concept of Right to the City in his iconic work *Le Droit à la ville*, launched months before the May 68 revolution in Paris.
2. The Geographic Information System (GIS) is a system that creates, manages and maps all types of georeferenced data, integrating diverse information for map making (TOMLINSON, 2007).
3. Blomquist et al. (1988) elaborated a first proposal for quality of life index for urban areas from the combination of data between data from the 1980 U.S. census on salary, housing costs and amenities (climate aspects, urban infrastructure coverage, violence rate and student teacher relationship) to compare 253 U.S. metropolitan areas.

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Transformation and Stability
The Impact of Women on the Built Environment

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Abstract

In late 19th century, a new form of colonies was established in Ottoman Palestine by Jewish immigrants, mostly from Eastern Europe. This paper will explore the initial four decades of these colonies, from the founding of the first one in 1878 to the beginning of the British Mandate in Palestine in 1918. During these years, the colonies experienced processes of reformation, enlightenment, modernization, and secularization, including advances in women's rights. The new colonies offered architects and entrepreneurs a rare opportunity to plan and implement a host of innovative ideas. Baron Edmond de Rothschild, a key figure in the colonies' development, hired architects and other professionals and promoted the education of young women. Public space in the colonies became a significant place where women were able to negotiate social change. This paper will present a few case studies of public spaces in the colonies -- streets, gardens, bathhouses, and synagogues: the ways they were planned and how they were transformed over time. Based on new archival materials, I will discuss topics such as work and education, water and hygiene, body and beauty, and the way women impelled changes in public space.

Key words

public space, colonies, late 19th century, gender architecture, built environment's transformation

How to cite

Abramovich, Talia; "Transformation and Stability: The Impact of Women on the Built Environment". In Carola Hein (ed.), *International Planning History Society Proceedings*, 19th IPHS Conference, City-Space-Transformation, TU Delft, 5 - 6 July, 2022, TU Delft Open, 2022.

DOI: 10.7480/iphs.2022.1.6519

INTRODUCTION

The Jewish colony established in 19th-century in Ottoman Palestine was created as an innovative, modern settlement for immigrants mainly from Eastern Europe. Baron Edmond de Rothschild, the renowned French-Jewish philanthropist, played a central role in the maintenance of the colonies and their survival. Starting in 1882, Rothschild harnessed his economic resources and his contacts with the Ottoman authorities to launch new colonies (Figure 1).[1] The planning of these colonies promoted modernity and relied on the import of both materials and professionals.[2] Planners, architects, engineers, and agricultural experts, mostly educated in Europe, were hired to do the planning. Rothschild also spearheaded the creation of a local professional work force. In 1887 he established a school for agricultural workers in Zichron Ya'acov; its students became interns of the French agricultural experts who advised and worked in various colonies.[3] During these years, under Rothschild's auspices, young men from the colonies were sent to study agronomy in France while a considerable number of young women were sent to study pedagogy in Paris.

The Jewish colonies evoked worldwide interest and attracted numerous curious visitors from around the world. The German Templar newspaper, *Warte des Tempels*, followed with great interest the colonies' advanced architectural and engineering projects. The Russian magazine *Voskhod* sent its representative, Dr. Haim Hissin, to investigate the development of the Ottoman colonies.[4] Professional articles reviewed the colonies' agricultural achievements.[5]

Immigration to 'the promised land' in the late 19th century was notable for its relatively large number of women.[6] The harsh physical conditions at the time, fraught with disease and high mortality rates, created a demand for workers; hence the concept that women can and should contribute to supporting the home economy spread rapidly in both ideological and spatial terms.[7] Women in the larger world were beginning to claim new rights at this historic juncture, emerging from the private sphere into the public one.[8] These transformations led to a greater share of visibility, function, and meaning for women in public spaces. [9]

This paper examines the design of three kinds of public spaces in the Jewish colonies: streets and gardens, *mikvehs* (public bathhouses), and synagogues. I will review their planning and transformation over four decades, from the foundation of Petah Tikva, the first colony, in 1878, to the establishment of the British Mandate in 1918. Looking at education and work, water and hygiene, and body and beauty in the colonies from gender perspective, as well as from architectural and design points of view, will make it possible to chart women's presence in the public space. Analysis of the transformation of public space design will also reveal the main actors who participated in this change.

WOMEN IN PUBLIC SPACE

Women's presence in public space was limited in the early 19th century. Scholars have noted the social processes which assigned women to the private space of home and men to the public realm – the economic, political and cultural world. Janet Wolf, the art historian, portrays the way women were confined to their homes, leaving the public arena to men.[10]

Fig. 1. Teachers and pupils in Zichron Ya'akov, c.1890s

Between 1890 and 1915, women become increasingly visible in the public spaces of the city.[11] Worldwide, women gained higher and professional education, enabling them to enter the workforce and the public arena.[12] Elizabeth Wilson, the social historian, points out the role of literature, both architectural and utopian, in changing the cities' and women's everyday lives.[13] Hilde Heynen, historian and theorist of architecture, depicts the role of architecture in displacing domesticity, claiming that innovative spatial designs that did not adhere to traditional patterns began to dislodge gender norms.[14]

Fig. 2. Teachers and pupils in Zichron Ya'akov, c.1890s

According to De Certeau, formal planning is influenced by the users' everyday activities, negotiating, subverting, and appropriating public space.[15] He argues that spatial arrangements organize a range of possibilities (for example, a square invites passersby to walk in it) and prohibitions (such as a wall). Daily activities discount some of these while inventing others.[16] Hence, public space in the Jewish colonies was a significant place where women were able to negotiate social change. Its transformation reflects changes in women's lives and activities: reading, talking, walking, cooking, and shopping all affect the built-up space.

EDUCATION AND WORK

Educating young women significantly impacted the colonies' public space. These women, known as the 'Baron's girls', returned to the colonies after completing their studies and became teachers in Zichron Ya'acov, Rosh Pina and other colonies (Figure 2).[17] Their European education gave them the chance to hold higher-status jobs and to access social and political power.[18] One of these women was Matilda Kofman, whose family emigrated from Romania to Ottoman Palestine in 1882. In 1890, after graduating from the Alliance teachers' training school in Paris, she returned to Zichron Ya'acov and taught French at the local school.[19] Disagreements between her and the school's principal, Rabbi Ze'ev Yavetz, over Kofman's attempt to institute a 'Parisian system of education' led to the rabbi's resignation and the appointment of Kofman, in 1899, as the school's headmaster. She continued to teach a variety of subjects in addition to her administrative duties.

Fig. 3. School parade, Zichron Ya'akov, late 1880s

The school played a major role in community life. Its female teachers organized local events, holiday festivals, and receptions for visiting dignitaries, most of which were held in the streets of the colony (Figure 3). On Baron de Rothschild's second visit to Eretz Israel, in 1893, he visited Zichron Ya'acov's school, where the pupils presented a show in Hebrew. At his request, the women of the colony gathered before the play, and he emphasized to them their role as educators, the value of daily prayer, and the importance of their help in their husbands' work.[20] The Baron's acknowledgment of women as influential figures in the colony gave them the legitimacy and power to play a greater role in its public life.

His approach was embedded in the planning of both the colonies' open spaces and their buildings. As the most important institution for the Jewish community, the synagogue served as a scene of action, and it mirrored the changes occurring in women's lives.[21] Historian Margalit Shilo has noted that women in early 19th-century Jerusalem hardly attended the synagogues due to their multiple tasks at home and their inability to follow the services without any knowledge of Hebrew.[22] As more women were educated, growing numbers of them were seen at public prayer services. This trend was reflected in the design of Zichron Ya'akov's Ohel Ya'akov synagogue. Built in 1886, it was known for its size and luxurious interior. Several prominent features differentiated it from synagogues built in colonies such as Petah Tikva, Rehovot and Mazkeret Batya. The design of its women's gallery, upstairs from the main sanctuary, was unique[23]: it contained a far larger number of seats for women than was customary.[24] These upstairs seats wrapped around three sides of the main prayer hall below and, unlike synagogues in most of the other colonies, reached all the way up to the Torah Ark, an arrangement similar to a theatre with stage and audience. Scheide, the colonies' head administrator, called attention to the exceptional planning of Zichron Ya'acov's synagogue, which allocated an equal number of places for women and men.[25]

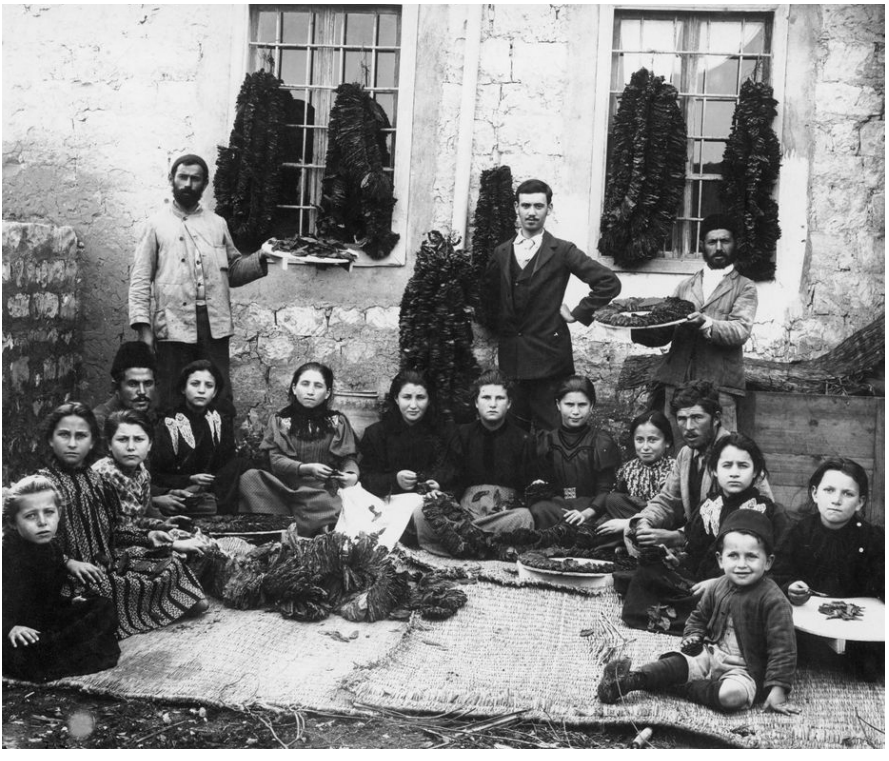

Fig. 4. Young girls sorting the tobacco leaves, Metulla, early 20th century

Fig. 5. Aaronson family strolling next to Ohel Ya'akov Synagogue, Zichron Ya'akov, early 20th century

The special structure of the women's gallery in Ohel Ya'akov, with its comfortable view of the men's prayer hall on the ground floor, facilitated women's participation in the ceremonies. This reveals the planner's intention to attract larger numbers of women there while raising the question of the architect's identity. One possibility is Abraham Adolf Starkmeth, who studied engineering in Paris and later became the chief engineer of Rothschild's administration. Another hypothesis suggests that the architect was Gottlieb Schumacher, a Christian and resident of the German Templar colony in Haifa. He drew the 1887 map of the colony, and he and his Templar colleagues were involved in the construction of Zichron Ya'acov's synagogue. Schumacher was invited to the inauguration of the synagogue along with Fritz Keller, the deputy consul of Prussia, and other Templars, and they were honoured to be the first to use the key to its door.[26] Others have speculated that, since the structure was clearly built in the spirit of contemporaneous Reform synagogues in Europe, its designer may have been a Reform Jewish architect.

As formal institutions provided work for growing number of educated women, an industry developed in the Near East offered another opportunity for women.[27] In the early 20th century the tobacco industry became prominent, and many colonies – among them Rosh Pina, Hadera and Metulla – started growing the crop in their fields. After the leaves were picked, they had to be sorted and dried, work that could be done by women close to their homes. In Metulla, the colony founded by Baron Edmond de Rothschild in 1890, the houses were planned and designed to allow space for drying the leaves.[28] The homes included halls with arched, vaulted ceilings where strings of tobacco could be hung.[29] Women, female relatives, and neighbours worked side by side, occasionally at the thresholds of the houses, sorting, threading and hanging the tobacco leaves (Figure 4).[30] This created semi-public spaces that increased women's visibility. The streets of the colonies became a communal, shared work space, part of the colony's public life. As international demand for tobacco increased and tobacco prices rose, the extent of women's labour in the industry expanded.[31]

BODY AND BEAUTY

The ceremonial aspects of the Jewish Sabbath called for women and men to exchange their workday clothes for finer ones, which legitimised the innate desire to 'dress up' (Figure 5). The religious prohibition of work on Saturdays effectively mandated leisure time, when women, men and children strolled the colony's streets and gardens, planned largely by French landscape designers and aptly named 'promenade gardens'. These included winding paths, iron benches, and water pools. Featuring parterres of trees and flowers, the gardens celebrated beauty and provided a picturesque backdrop for the well-dressed community.

In a letter from the wife of architect Kantor Kalman to her sister-in-law, she describes her home, her daily schedule, and herself – on Saturdays:

> *On Sabbath I am wrapped in a nice and beautiful headscarf... and, God willing, I go to a synagogue; our dresses too are beautiful and tastefully tailored. Over time, Zichron Ya'acov will become a city, as it already is now.*[32]

Fig. 6. Women next to a stone sebil in Zamarin (Old Zichron Ya'akov), c.1890s

Fabrics, luxury items and other goods imported from Beirut, Paris and elsewhere in Europe were sold in the colonies' general stores like The Depot, which flourished in Zichron Ya'acov. From 1912 to 1927 it was managed by Yechiel Diamant and his wife Deborah, who was the buyer; she traveled to Beirut and Egypt to pick up specialties for the shop. Fashion had been featured since 1904 in the local Jewish weekly, which published the personal column written by Hemda (Paula) Ben Yehuda. Born in Russia and raised in Moscow, Hemda moved to Jerusalem to marry the renowned reviver of the Hebrew language, Eliezer Ben-Yehuda, after the death of her sister, his first wife. Hemda was a modern woman who brought the ambiance of the wider world to her new home. She redesigned the interior of their house in Jerusalem with carpets and furniture in the latest style, ran an 'open house' and European-style salons, and held parties and receptions. She also followed with interest the new colonies founded in the Galilee in the early 20th century and the new possibilities they offered women regarding job opportunities and voting rights.[33] She enthusiastically described trends in women's fashion in her column while suggesting new outfits suitable for the image of these newly advanced women.

WATER AND HYGIENE

Many of the early homes in the colonies initially lacked indoor plumbing, and projects to install water pipes were delayed for many years. It was almost a decade after the establishment of Zichron Ya'acov when a reservoir was built and public water taps were installed on the street – a noteworthy event, as reported in 1890 in the German newspaper *Warte des Tempels*:

> *Water faucet structures were placed with their facades facing the street, to allow water supply to several homes as well as to workers and visitors in the colony.*[34]

The livability of the streets was dependent on these public water faucets, housed in small stone structures named sebils.[35] Sebils had been erected in many Ottoman cities by local

rulers and governors, and historically were viewed as the hallmark of a beneficent ruler. In Zichron Ya'acov, the small stone sebils, restrained in design, were located near the homes facing the street. They reflected the vernacular architecture of the period and added a new, human dimension to the colonial streets.

The sebils, used for household tasks such as laundering and dishwashing, were extensions of the home in a public space (Figure 6). They also served as a daily meeting point for the colony's women. As Zichron Ya'acov developed into the economic and social centre of its rural environs and a transit point on the main traffic route from Jaffa to Haifa, merchants, visitors and workers with camels and horses stopped to refresh themselves at the water points. Hence these became the venues where women got news from the rest of the country and abroad, where they exchanged information and formulated ideas and strategies for action.

According to Jewish tradition, women were required to bathe regularly in a *mikveh*, a source of deep, running water, as a ritual of hygiene and purification. In many of the colonies including Zichron Ya'acov, a natural spring or pool served as the public bath (*mikveh*). In 1910, after water pipes were installed in Zichron Yaacov's houses, the colony began planning its public bathhouse, and architect Cantor Eliyahu designed it.[36] In December 1911, he arrived in Zichron Ya'acov to scout a location for it.[37] Despite the plans that had been prepared in advance, however, the construction of the colony's *mikveh* was delayed for more than a year due to a protest from the women of the colony. According to a protocol of the community's meeting on 10 February 1912, the women objected to the architect's chosen site, a remote location at the edge of the colony near the cemetery.[38] The women threatened to boycott the building and not attend the bathhouse unless its location was changed. This threat held profound religious and feminist significance: according to Jewish law, their husbands would not be allowed to have any physical contact with wives who had not duly gone to the *mikveh*. Though their protest was most likely sparked by the proximity to the cemetery on the outskirts of the colony, it was probably also linked to the fact that the out-of-the-way site removed the women from the beating heart of the colony. Thus it is clear that women took an active role in changing the planned and built environment.

TRANSFORMATIONS OF THE BUILT ENVIRONMENT

Towards the close of the 19th century the transformation of women's activities become noticeable in the public space, where department stores, eating establishments and guest houses gave women a greater presence.[39]

In 1900, Rothschild handed over the administration of the colonies to the JCA-The Jewish Colonization Association. Among the most obvious results in Zichron Ya'akov were reduced numbers of officials, dismissals of gardeners and assistants, and changed curriculum and staff in the school:

> *Mr. Epstein came, following Mr. Meirson's order, and arranged the school's affairs. The female teachers were dismissed and he took male teachers to replace them, teaching hours in the French language were reduced, and the number of school hours taught in Hebrew were increased.*[40]

Just some of the many radical changes JCA's administration made in the colony, these new conditions provoked the protest of the entire community.[41] Nevertheless, by the end of 1912, the women's demands for changes regarding the public bathhouse in Zichron Ya'acov were taken into consideration and ultimately the new *mikveh* was built in a more accessible location, in the centre of the colony.[42]

Meanwhile, changes were taking place in Zichron Ya'acov's synagogue and its role in the community, where it occasionally hosted weddings and other ceremonies. Threatened by the ongoing changes, the Orthodox establishment could not agree to them.In the winter of 1913, Rabbi Abraham Isaac Kook, the chief rabbi of Jaffa and the '*moshavot*' (colonies), led a delegation of rabbis to the many newly-established colonies in Samaria and Galilee. Known as the 'Journey of the Rabbis', its goal was to strengthen religious observance and halt processes of secularization in the Jewish colonies.[43] When the rabbis arrived in Zichron Ya'acov they demanded that the interior of the synagogue be redesigned. The colony's leadership was not keen to make these structural changes, and the promised alterations were delayed. Consequently, a few colonists took matters into their own hands. Without official approval, they began to alter the interior of the synagogue to conform more closely to Orthodoxy.[44] Soon the synagogue stopped accommodating indoor weddings. The synagogue no longer allowed 'mixed' (not gender-separated) ceremonies.

After World War I, the Orthodox leadership grew stronger and initiated changes to the exterior of the building as well. Two new doors were created with two staircases leading directly to the women's gallery upstairs, effectively separating women from the main entrance which would henceforth be accessible only to men. In the following years spatial regulations for the colonies' synagogue buildings were defined and adopted.[45] In new synagogues, the banisters in the women's sections were raised and covered with curtains, limiting the view of the main prayer hall. These changes thereby codified physical, gender segregation in the synagogues and the isolation of women in their separate section.

CONCLUSION

This study finds that the Jewish colonies in Ottoman Palestine were designed primarily by male planners and architects who sought to create a modern, improved, and progressive urban space. The built environment, however, was modified and changed both during the planning phase and after the projects were implemented. The relevant documents, plans, pictures, and testimonies indicate that lively discussions of construction projects took place with the communities, and women in particular were actively involved in their development and transformations. Women embraced modern planning, which offered them a greater opportunity to participate in public life, to be visible and heard; they rejected urban plans that did not further these aspirations. The impact of women on planning, both by protest and by daily activities, facilitated the change of public space and influenced the design of future colonies.

ACKNOWLEDGEMENTS

I would like to thank the head of Zichron Ya'akov Archives, Liron Gurfinkel and her assistant Hilla Laner-Bloom, for their assistance in uncovering photos and documents used in this paper. I greatly appreciate the Central Zionist Archives' staff for their invaluable help in retrieving new documents. Special thanks go to all the senior residents of Zichron Ya'akov who shared their precious memories with me, especially Hilik Leitner. Thanks also to Rosette and Moise Maman for their help in translating reports and documents from French. And I am most grateful to the Shlomo Glass & Fanny Balaban-Glass Foundation for their generous financial support of my research.

DISCLOSURE STATEMENT

No potential conflict of interest was reported by the author.

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ENDNOTES

1. Schama, *Two Rothschilds and the Land of Israel*; Aaronsohn, *Baron Rothschild and the Colonies.*
2. Abramovich, Epstein-Pliouchtch and Aravot, "Imported Modernity and Local Design," 188.
3. The school was called Arbeiterschule (German: a school for work). Ben Arzi, "*Arbeiterschule and Lustgarten.*"
4. Hissin, *A Journey to the Promised Land*.
5. Such as Aaronson, "La colonisation Juive en Palestine."
6. Shilo, Princess or Prisoner, 15.
7. Epstein-Pliouchtch and Abramovich, "From Reform to Revolutionary Thinking."
8. Gómez Reus and Usandizaga, Inside Out.
9. Kark, Shilo and Hasan-Rokem, Jewish Women in Pre-State Israel. Köksal and Falierou, *A Social History of Late Ottoman Women*.
10. Wolff, *Feminine Sentences*, 12-33.
11. Wilson, *The Sphinx in the City*, 16; Montgomery, Displaying Women; Sewell, *Women and the Everyday City*.
12. Shilo, "A Cross-Cultural Message."
13. Wilson, *The Sphinx in the City*, 18-19.
14. Heynen, "Modernity and Domesticity," 25.
15. De Certeau, *The Practice of Everyday Life*.
16. Abramovich, and Nitzan-Shiftan, "From Public Space to Urban Square."
17. Szekely, "The Character of the *Teachers*," 146.
18. Hissin, *A Journey to the Promised Land*, 318-319.
19. Samsonov, *The Book of Zichron Ya'akov*, 188.
20. Samsonov, *The Book of Zichron Ya'akov*, 217.
21. Abramovich and Carmon, "Religion, Design, and Settlement," 7.
22. Shilo, *Princess or Prisoner*, 133-134.
23. The separate women's section derives from the traditional Jewish practice of separating men and women in public.
24. Scheide notes the minimal places allocated for women in other synagogues in the country, especially in Rosh-Pina. Scheide, *Mémoires sur les colonies Juives, 131*.
25. Scheide, *Mémoires sur les colonies Juives, 81*.

26. *Warte des Tempels*, 4.11.1886.
27. Hadar, "Jewish Tobacco Workers."
28. The Central Zionist Archives, Jerusalem (CZA) J15/7569.
29. Abramovich, "First 'Moshavot' Settlements," 49-51.
30. CZA, PHG/1000419.
31. CZA, S8/1359/3-1kru.
32. *HaMelitz*, 27.6.1890.
33. *Hashkafa*, January 30, 1907.
34. *Warte des Tempels*, 6.3.1890.
35. Abramovich and Epstein-Pliouchtch, "Resilience of Public Spaces," 131.
36. CZA, J15M/235.
37. Zichron Ya'acov archive, Protocol no. 52 from December 14, 1911.
38. Zichron Ya'acov archive, Protocol no. 69 from February 10, 1912.
39. Wilson, *The Sphinx in the City*.
40. Samsonov, *The Book of Zichron Ya'akov*, 264-265.
41. Ibid.
42. As indicated by its name nowadays: The Central Mikveh for Women.
43. The journey reports were published in a booklet: https://beta.hebrewbooks.org/36617.
44. It included interior changes such as displacing the reading platform and removing some wall decorations.
45. Such as *in Ohel Sarah Synagogue, Rehovot.*

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IMAGE SOURCES

Fig. 1 Author's drawing
Fig. 2 Zichron Ya'akov Archive
Fig. 3 Zichron Ya'akov Archive
Fig. 4 The Central Zionist Archives, Jerusalem, PHG/1000419
Fig. 5 Zichron Ya'akov Archive
Fig. 6 Zichron Ya'akov Archive

The German experience of urban regeneration, taking the Blasewitz-Striesen Nord-Ost district (Dresden) as an example, and the possibility of its application in historical cities in Russia

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Abstract

The article illustrates the practical application of legislative and planning tools for the preservation and development of the historical and architectural urban environment in the city of Dresden, taking the districts of Blasewitz and Striesen as examples. It examines the principles of rapid response and countermeasures to the destruction of the historical, architectural and urban environment, as well as decision-making procedures and implementation mechanisms. Furthermore, it describes the distinctive features of the system of preservation of urban heritage in Germany which guarantee the effectiveness of preservation, and which can be considered as principles for applying the German experience to historical cities in Russia.

Keywords

urban regeneration, urban regulations, urban space, urban/historical heritage, urban development

How to cite

Malko, Anastasia; "The German experience of urban regeneration, taking the Blasewitz-Striesen Nord-Ost district (Dresden) as an example, and the possibility of its application in historical cities in Russia". In Carola Hein (ed.), *International Planning History Society Proceedings*, 19th IPHS Conference, City-Space-Transformation, TU Delft, 5 - 6 July, 2022, TU Delft Open, 2022.

DOI: 10.7480/iphs.2022.1.6439

INTRODUCTION

Urban heritage carries history and memory of era and place. The preservation of our heritage is one of the most important tasks of society. Evidence of the past in the urban landscape, as a reference point for the formation of citizens' identities, and the issue of preserving urban heritage, should be among the priorities in the development planning strategy for historical city centres[1].

In Russia, since the adoption of the *Executive Order for the Establishment of the List of Historical Settlements No. 418/339* in 2010, the number of cities or settlements with 'historical' status has decreased from 478 (listed in May 1970) to 41[2]. Important cities of special historical and cultural significance, such as Pskov, Ryazan, Velikiy Novgorod, and others, have lost this status. According to experts, the reasons for reducing this list are diverse: political and economic aspects, inadequate regulatory frameworks among others. It is nevertheless now necessary to assess the value of the historical and architectural urban environment of about 500 settlements previously included in the lists for further classification and determination of the limits of urban development given the requirement to preserve the architectural and urban environment[3].

When searching for effective conservation tools, it is advisable to study the experience of other countries, for example, Germany. With one of the highest densities of protected cultural heritage[4] (2018), the number of official objects recorded in the list of monuments in Germany is more than 1 million, including not only individual buildings, but also a significant number of fragments of urban territories[5].

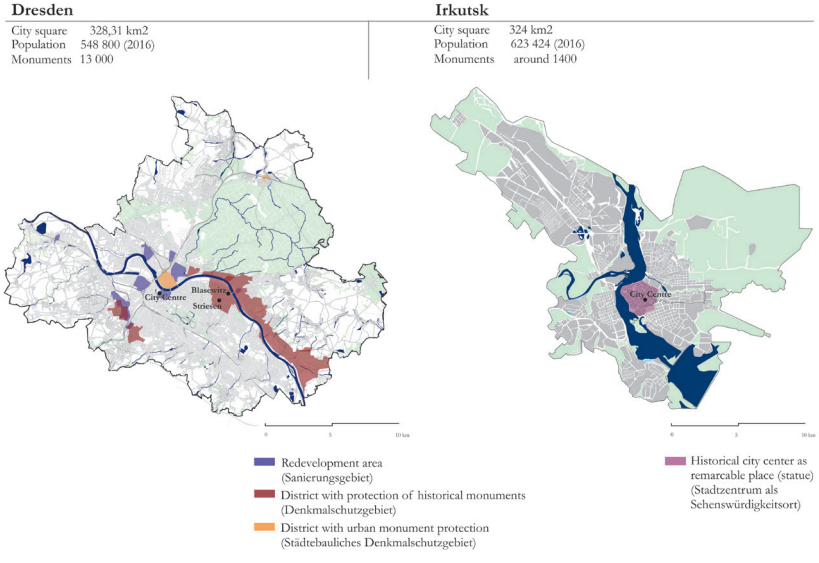

Fig. 1. Comparative characteristics of the studied cities of Dresden and Irkutsk: area of the city, population, number of objects of historical and cultural heritage and presence of areas with protected status

CITIES CHOSEN FOR STUDY

The choice of cities was based on similarities and differences. When analysing the similarities, attention was paid to historical and urban aspects and, above all, the existence of urban heritage. The differences relate to the approach to the handling and preservation of urban space as part of urban planning activities. It is imperative that the selected German cities already have positive results and experience with urban heritage that would be useful for Russian cities.

In Russia, the city of Irkutsk was chosen. Like many Russian cities, it has seen a rapid loss of examples of historical wooden architecture, for reasons such as the inadequacies of the regulatory framework.

In Germany, the city of Dresden, with its rich historical past, was chosen. Dresden is one of the cities in East Germany in which, during the GDR era, approaches to heritage protection were in many ways the same as in the Soviet Union. Dresden also experienced structural changes to its economic and social fabric after the end of the GDR, and it was important to choose the right strategy for preserving historical heritage. This was one of the reasons for choosing the city, where many interesting and effective tools for the protection and development of the historical and architectural urban planning environment have been devised and applied since the 1990s.

Dresden and Irkutsk have comparable urban development characteristics: the area of the city, population, landscape, and a rich historical and cultural heritage. The historical centres in both cities have undergone dynamic development, which raises the acute question of how to preserve historical buildings, ensembles, symbols of urban history, and cultural heritage while at the same time meeting the necessary new functional requirements for urban development (Figure 1).

COMPARISON OF THE TERMS OF THE CONCEPTUAL APPARATUS OF URBAN HERITAGE IN GERMANY AND RUSSIA

When comparing the terms, concepts, and definitions of normative documents in Germany and Russia which form the regulatory framework for the preservation of urban heritage, we can note that objects such as monuments, ensembles and landmarks have the status of legally protected objects in both countries and are defined in the same way in terms of context and semantics. However, in addition to these elements, the historic areas contain other components without protected status but which form the spatial context and the appropriate backdrop to the heritage objects, i.e. in their totality they create the historical and architectural urban environment – the cityscape. In both Germany and Russia we distinguish four conceptual groups of elements of historical architectural urban environment: ‘structures’, ‘spaces’, ‘architecture’ (‘material elements’) and ‘historical character/cityscape’ (‘genius loci’). However, the composition of the components of each conceptual group dif-

fers. In particular, it can be noted that in Germany detailed classification of spaces in terms of historical value differentiates between street space, green space and bodies of water. There is also a classification of buildings which do not have protected status: objects that shape the 'appearance of the place' and the silhouette of the built environment. In addition, Section 1 of the Federal Building Code[6] makes reference to the 'shaping of the town- and landscape' which includes protected objects. In Russia, the components of the architectural and urban environment are not classified in such detail, and the historical and architectural analysis of urban planning does not always consider their value in the overall context of the preservation of historic cityscapes. The task of preserving the historic character of a city necessitates the expansion of the conceptual apparatus to designate all types of historical and urban environment which shape the cityscape and to create tools to describe and regulate their preservation. In Germany all groups are represented within the existing legislative framework. The key instrument in Russia is the Federal law 73[7] on the protection of cultural heritage sites, whereby, in the author's opinion, the set of components is not sufficient to solve the problem of preservation of the cityscape. Since such tasks are not set out in law, discord often arises, when the destruction of the historical ensemble occurs during point development, as shown by an example of historical development in the city of Irkutsk, when the mosque complex lost much of its dominant role and its value as a cult object. (Figure 2).

THE SYSTEM OF LEGISLATIVE AND PLANNING INSTRUMENTS FOR THE PROTECTION AND DEVELOPMENT OF URBAN HERITAGE, CONTRIBUTING TO THE PRESERVATION OF HISTORICAL CITYSCAPES IN GERMANY TAKING DRESDEN AS AN EXAMPLE

In the period from 1990 to 2020 Dresden created a series of planning and legislative instruments that ensure not only the preservation of the historical cityscape, but also define the development of specific areas of the city. This comprehensive legislative framework for territorial development includes local urban planning regulations governing overall urban design and also the formative elements of each building. These regulations were developed individually for each area, taking into consideration their potential in relation to the *Integrated concept of urban development*[8]. The regulations are based on the fundamental requirement to preserve the historic cityscape. They describe in detail all measures to be taken in relation to urban development and planning. Before approval under the regulations, a thorough historical and architectural survey is carried out requiring the creation of appropriate methodological tools to describe the architectural and cultural context. These tools enable the definition of the necessary protection parameters.

Fig. 2. Irkutsk: mosque in the Karl-Liebknecht Street in front of a new glass facade which disturbs the perception of the historical monument

Decisions to approve the regulations are taken at the level of the city administration, thus producing a differentiated and detailed guide to action. The development and application of these regulations requires a highly sophisticated design culture and standard of urban planning activities. In Dresden there are ten 'Urban Regeneration Districts', eight 'Monument Protection Districts' and two 'Urban Monument Protection Districts' (Fig. 1). The practical application of the following instruments – development plans and monument protection statutes – will be discussed below, taking the Blasewitz and Striesen districts as examples.

BLASEWITZ AND STRIESEN: HISTORICAL DISTRICTS IN DRESDEN

HISTORICAL AND URBAN CHARACTERISTICS

The Blasewitz and Striesen districts evolved from former villages close to the city of Dresden. Blasewitz is located to the east of the city centre and consists largely of villas for the wealthy[9]. Striesen adjoins the Blasewitz district to the south-west and is characterized by three-storey houses with attics, historically occupied by high-ranking citizens (Figure 3)[10]. Today, the Blasewitz and Striesen districts are of particular importance for the history of the city, having sophisticated urban planning, art and architectural features, as well as being a high quality urban environment with functional diversity, good infrastructure and a favourable location in the overall structure of the city. The urban infrastructure and level of comfort are continually improving. A characteristic feature of these areas is the presence of particularly valuable green spaces with an old stock of trees which form a historical and urban landscape worthy of protection. In recent years, there has been a rapid development of existing vacant lots with new houses.

HISTORICAL BACKGROUND OF THE LEGAL FRAMEWORK 1860-1996

In the 19th century, the principles of urban planning for Blasewitz and Striesen were laid down and have been preserved to this day.

In 1860, 1870 and 1899 normative documents, referred to as development plans were adopted for the new settlement of Neustriesen. A development plan for the entire suburb of Striesen was adopted in 1899, which allowed for open and closed type construction indicating detailed specific building standards and the permissible functional land use (the location of commercial and industrial zones) and defining the number, size and improvement of public spaces.

The development plans drawn up in 1860 and 1880 were also adopted for the Blasewitz district, followed in 1905 by the Building Code of the District of Blasewitz which is part of the general Building Code of the City of Dresden[11].

Fig. 3. Aerial view of the Blasewitz district and the north-eastern part of the Striesen district with 'Blasewitz villas' and 'chessboard' arrangement of 'cubic houses', characteristic streetscape and the 'Blue Wonder' bridge

These legislative norms laid the foundation for urban development of the district, determining the planning structure and architectural and spatial streetscape. For a long time the district retained its architectural and urban planning features. To preserve them, a monument protection statute for the Blasewitz/Striesen-Nordost area[12] was passed in 1996. This preservation order recorded the cited characteristic historical urban planning and architectural features as objects worthy of protection.

URBAN PROBLEMS: A CHRONICLE OF THE DEVELOPMENT OF URBAN DEVELOPMENT IN RECENT YEARS

In the period from 2004 to 2014, many historic villas in the Blasewitz district were demolished to free up land for new development. In this regard, there were repeated protests from local residents and political figures, highlighting the damage to the historically developed urban environment of the region. In most cases buildings were erected on the vacant plots which, unlike the demolished villas, did not correspond to the typology of local historical architecture and breached the harmony the historical cityscape, architecture and urban features of the region.[13] As a result, there has been an excessive compaction of historically developed buildings and a loss of structures which were of particular significance in the history of the city. In new buildings, permissible floor space was exploited to the maximum by the addition of attic floors. The architecture of these new buildings in most cases was uniform and monotonous, meeting only the technically applicable norms and standards. It did not consider the

local historical context and resulted in the loss of regional town planning features, a reduction in the quality of the overall environment and the characteristic historical cityscape. Furthermore, the function of the surrounding area was frequently altered in order to ensure sufficient parking spaces. This led to a loss of landscaping of front gardens and a decrease in the number of green spaces in the area as a whole (Figure 4).

MEASURES TO COUNTER THE DESTRUCTION OF THE HISTORICAL ARCHITECTURAL AND URBAN ENVIRONMENT - A QUICK RESPONSE MECHANISM

CIVIC PARTICIPATION

The problem of the loss of historical environment was noticed by local residents. In June 2015, a group of committed people in the Blasewitz district organized an exhibition entitled "Our beautiful Blasewitz"[14]. The exhibition was educational in nature, as it presented material relating to the historical and urban development of the district and described its characteristic architectural and urban development features. Furthermore, it highlighted criticism of new projects. All statements reflected on the above-mentioned problems with regard to the design of new architectural objects, as well as expressing the desire for harmonious local development in the future. The exhibition impressively demonstrated the willingness of citizens to participate constructively in the development of their living environment. Thus, the distinctive feature of the situation in Germany is the presence of a critical mass of people having an ingrained formed identity which contributes to the preservation of urban heritage. This, perhaps, is a necessary precondition for the implementation of the principle of preservation of historical cityscapes.

EXISTING URBAN PLANNING REGULATIONS

After the exhibition, the administrative authorities in Dresden acknowledged the problem that the historical and architectural urban planning environment could not be fully preserved by applying existing legislative standards. For example, the current norm of 'blending into' the existing historical context, in accordance with Section 34 of the Federal Building Code (BauGB), was not sufficient to properly ensure the preservation of the existing historical cityscape. The current Monument Protection Act could not prevent the demolition of historical buildings without protected status and was therefore not able to adequately conserve the historical environment. As a result, many historical sites were lost.

Fig. 4. Problems: demolition of a building; loss of valuable historical environment (Eichstraße 2, before and after demolition in 1996)

HISTORICAL AND ARCHITECTURAL TOWN-PLANNING SURVEY

In the summer of 2015, the authorities in Dresden initiated a detailed survey of the areas including a thorough description of all architectural and urban elements. This survey included an analysis and description not only of buildings with protected status, but of all historical buildings as well as streets, squares, landscaped areas and bodies of water. A comparative historical analysis of building norms, rules and regulations developed since the founding of the districts was carried out to derive the protection parameters necessary to preserve their urban planning specifics. An expert assessment was made as to whether buildings without protected status have urban development value. A typological analysis revealed the presence of buildings of different eras which are important evidence of the city's history.

This analysis was used to identify the characteristic town-planning and architectural features of the region. It confirmed that in order to preserve the historical cityscape, it was necessary to divide the territory into subareas, governed by their own respective regulations. During the analysis, it was established that green spaces and building types play a decisive role in the shaping of the historical cityscape.

The following town-planning and architectural parameters for preservation of the historical architectural and town-planning environment were deduced:

- *Urban planning parameters*: construction method, ratio of built-up and undeveloped territory; building position on the site; the presence and type of front gardens and fences; location of additional facilities; public space design
- *Architectural parameters*: for example, volume and structure of the structure; height of the cornice; structure and design of facades; shape and construction of the roof

LEGISLATIVE INSTRUMENTS

The historical and architectural town-planning survey of the district was aimed at identifying the necessary legal tools to solve the problem of the loss of the historical town-planning and architectural cityscape of the district.

In November 2015, the results of the survey were formulated in a position paper and presented in public along with the proposal to pass a monument protection statute for the preservation of urban planning features[15]. The main goal of this statute is to preserve the integral urban development image of the region, by conserving all key historical, architectural and urban design elements that shape the appearance of the town- and landscape. At the same time, urban planning activities are permitted, subject to the necessary coordination between the administrative departments in Dresden. This allows both flexibility and the possibility of further development in the district and not its wholesale conservation. In January 2016, the statute[16] was duly passed. The next step was taken in 2017 with the implementation of a system of regulations, each governing a specific section of the district, the boundaries of which were determined during the historical and architectural town-planning survey. In this case, five different territories were identified (Figure 5)[17].

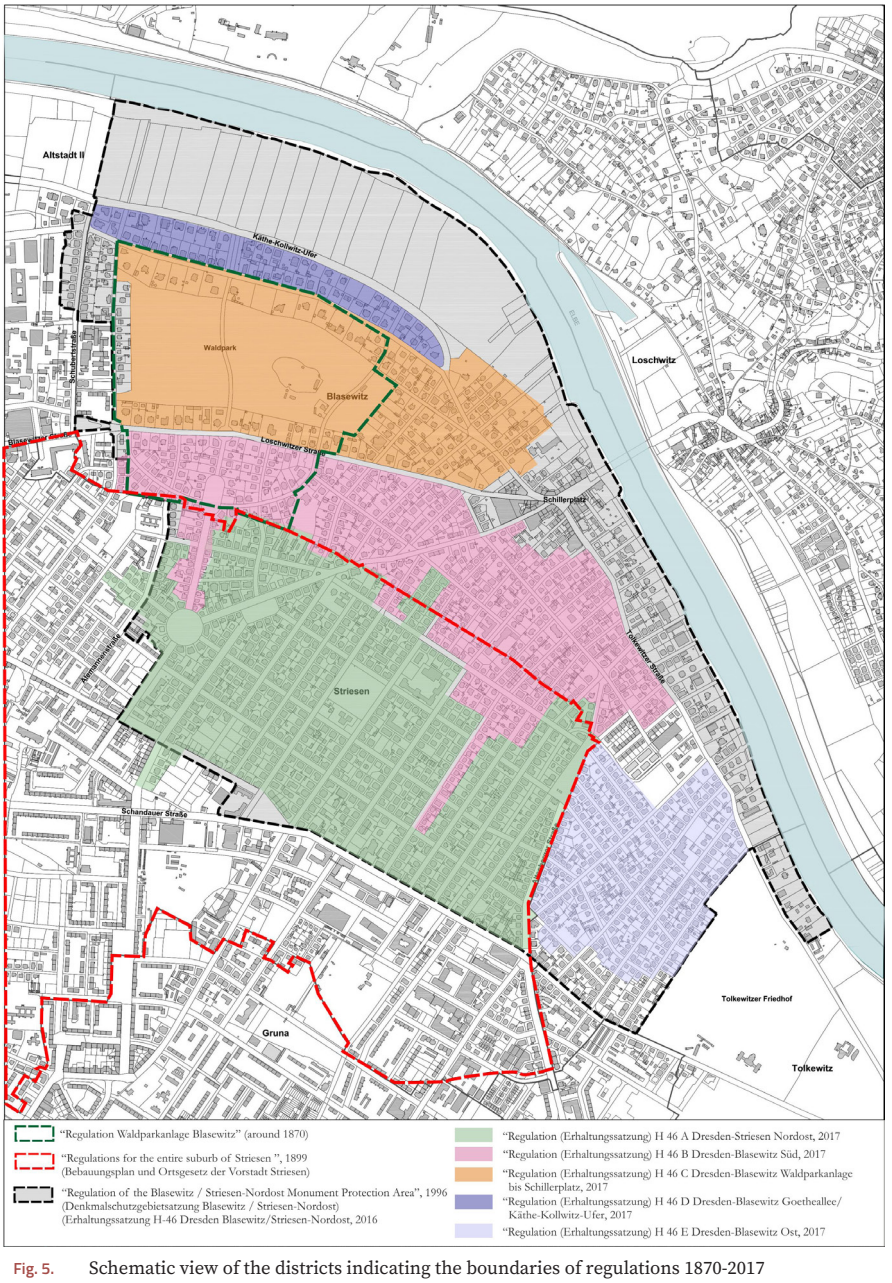

Fig. 5. Schematic view of the districts indicating the boundaries of regulations 1870-2017

Analysis of the dynamics of current urban development activities in Germany (using the example of the above-mentioned areas), during which the loss of architectural and historical heritage objects is possible, mitigating these losses and making the necessary decisions to prevent changes to the historic cityscape can only be achieved if the following conditions prevail:

- active civic participation
- appropriate administrative structure of the city
- competent and qualified personnel
- sophisticated, high-quality architectural and historical survey procedures and town planning activities

In the district of Striesen, there are already some first examples of the construction of new buildings that blend in well with the existing urban context. These were built according to the development plan drawn up by the administrative authorities in Dresden, which also carried out direct supervision of their development.

THE MAIN CONCEPTUAL DIFFERENCES BETWEEN THE APPROACHES TO THE PRESERVATION OF URBAN HERITAGE IN RUSSIA AND GERMANY AND THE POSSIBILITIES OF APPLYING THE GERMAN EXPERIENCE IN RUSSIA

The analysis of the system of urban heritage preservation in Germany and its comparison with Russian practices allows us to conclude that the main difference lies in the approaches and systems of general, initially important justifications that determine the definition and fulfilment of conservation and urban development tasks. We can say that in Russia and in Germany we have different paradigms of systems for the preservation of urban heritage, i.e., the difference lies in our approach to answering the age-old questions of "what to preserve" and "how to preserve". In Russia, unfortunately, the principle of prohibition still holds, despite the opinion expressed in expert circles that this should be abandoned. This 'prohibitive principle' regulates and determines the banning of certain types of urban development activities on territory within fixed boundaries stipulated by law. Outside these boundaries no restrictions are in place which leaves the surrounding area – the historical environment – unprotected. This means objects can be torn down without prior consultation, with the loss of the historical architectural fabric, the destruction of the historical context and the loss of the historical town- and landscape and its 'genius loci'.

In Germany the preservation of architectural historicity is based on the principle of preserving the overall historical image of a built environment. For this purpose, there are methodological tools to describe the historic architectural and cultural context, which allow you to derive the necessary protection parameters. These are to be approved at a local level.

Fig. 6. Dresden, Striesen-Nordost Monument Protection District: a positive example of new development on the borders of the Monument Protection District, designed in accordance with the Development Plan

To adapt the German experience to Russia we must change the concept of the preservation approach, which means abandoning the 'prohibitive principle' and turning to the concept based on the preservation of the historic cityscape, developing a hierarchical system of detailed regulations by analogy with the German documents subject to local approval. These tools should not only take into account the preservation of urban planning features and landscape, the historic architectural character and cityscape, but also ensure that new buildings 'fit" into the historical context, preventing (potential) disputes.

CONCLUSION

- The preservation of urban heritage should be based on the principle of preserving the historical cityscape. For this purpose, methodological tools should be created to describe the architectural, historical and cultural context, allowing the derivation of the necessary protection parameters. These are to be approved at a local level.
- It is advisable to develop differentiated and detailed urban planning regulations (for each district of the city) using the strategy of heritage-led development.
- The system of regulations must ensure the principle of protection of all components of the historic and architectural environment that ensure the preservation of character and cityscape. These components should also include those without protected status but which contribute to the shaping of the historic cityscape.

DISCLOSURE STATEMENT

No potential conflict of interest was reported by the author.

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No potential conflict of interest was reported by the author.

NOTES ON CONTRIBUTOR(S)

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IMAGE SOURCES

Fig. 1. Anastasia Malko, photo, 2017

Fig. 2. Anastasia Malko, schematic, 2017

Fig. 3. Peter Haschenz, photo 2019.

Fig. 4. Ralf Kukula, photo 1995, 2015 [from the exibition "Unser Schönes Blasewitz" 19.06.2015-17.07.2019, picture 6].

Fig. 5. Anastasia Malko, plan, 2020 based on materials of Stadtverwaltung Dresden, Stadtplanungsamt, Amtsleiter, Architekturgemeinschaft Dr. Braun & Braun, Dresden 2015, Bebauungsplan und Ortsgesetz der Vorstadt Striesen 1899.

Fig. 6. Anastasia Malko, photo 2017.

Anastasia Malko

The German experience of urban regeneration, taking the Blasewitz-Striesen Nord-Ost district (Dresden) as an example, and the possibility of its application in historical cities in Russia

6 JULY: SESSION 4.1

CRITICAL LEGACIES.

Chair: Gabriel Schwake

Jaap Bakema's Open Society in the Twenty-first Century
A Critical Appraisal of 't Hool, the Netherlands and Montbau, Spain

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Abstract
The concept of the Open Society appeared in the CIAM discourse of the 1950s as an attempt to create condition in the city for society to prosper. These good intentions at the theoretical level did not always translate into success stories in practice, and some of the consequences of such a gap can be still felt today, amplified by multiple crises (social, economic, environmental, etc.). Often, the consequence is decay and demolition. The availability of vast knowledge and the emergence of different urban theories and tools since the 1950s allows for new possibilities to reinterpret the values underpinning the concept of the Open Society, and to bridge the gap between theory and practice. Our hypothesis is that an historically situated appraisal of the Open Society is necessary to bring it up to date and renew and enrich its legacy towards social, economic, and environmental resilience. Thus, we formulate the question: to what extent is the concept of the Open Society still relevant in contemporary urbanism? This study proposes a two-pronged investigation into the Open Society (both empirical and theoretical). It aims to investigate the discursive and projective validity of the concept as follows: First, critically review the theoretical concept and its implementation from the perspective of global and contemporary frameworks of discourse and policy. Second, empirically review two case studies ('t Hool, the Netherlands and Montbau, Spain) that illustrate the phenomena and patterns that have arisen in the friction between place, Open Society ideals, and resistance generated by users. This research uses a mixed-methods approach (i.e. quantitative and qualitative) and includes critical cartographies to critically and sensitively examine the two case studies and draw conclusions to highlight power relations and the existing materials available for building a more resilient future. In this way, we attempt to bridge the theory-practice gap by providing a methodology that provides a broad and deep understanding of the places, their histories, and their potentials and urgencies.

Keywords
Open Society, Jaap Bakema, architecture/urbanism, 't Hool (the Netherlands), Montbau (Spain).

How to cite
Sanz Oliver, Juan; Bracken, Gregory; Muñoz Sanz, Víctor; "Jaap Bakema's Open Society in the Twenty-first Century: A Critical Appraisal of 't Hool, the Netherlands and Montbau, Spain". In Carola Hein (ed.), *International Planning History Society Proceedings*, 19th IPHS Conference, City-Space-Transformation, TU Delft, 5 - 6 July, 2022, TU Delft Open, 2022.

DOI: 10.7480/iphs.2022.1.6472

1.-INTRODUCTION

The Open Society concept entered Congrès internationaux d'architecture moderne (CIAM) discourse in the late 1950s as an attempt to create conditions for both city and society to prosper[1]. These good intentions did not always translate into success in practice, however, and some of their shortcomings can still be felt today, amplified by multiple crises (social, economic, environmental, etc.) which are leading to decay and demolition of architectural heritage from that time. Yet, the availability of knowledge and the emergence of different urban theories and tools since then have allowed new possibilities to reinterpret the values underpinning the Open Society and potentially bridge the gap between theory and practice.

Understanding the Open Society is necessary if we are to have a deeper understanding of the history of urban renovation. By updating its legacy and exploring both the transformation and stability of urban space we can encourage resilience, social, economic, and environmental. But first we need to understand inhabitants' needs, and their engagement with self-organising entities and different types of housing and public space, as well as the gradient that exists between public and private that is facilitated by the composition of spatial form.

Urban environments undergo continuous change. These include transformations of plans and objects, as well as changing identities for certain spaces (indeed, sometimes whole cities). Historic planning approaches have been side-lined in some of the debates around modernisation and renovation and this led us to our research question: to what extent is the Open Society still relevant in contemporary urban projects and discourse?

2.-METHODOLOGY

To answer this question, we propose a two-pronged investigation into the concept (first theoretical, then empirical) with the aim of researching the discursive and projective validity of the Open Society for the twenty-first century through our explorative and speculative investigations.

We begin by critically reviewing the concept of the Open Society and its implementation from the perspective of global and contemporary discourse and policy frameworks. We then empirically review two case studies: 't Hool in the Netherlands and Montbau in Spain, to see how they illustrate the phenomena and patterns that have arisen in the friction between place, Open Society's ideals, and the resistance generated by users.

This research uses a mixed-methods approach (both quantitative and qualitative) and critical cartographies to examine the case studies and highlight the power relations that obtain in each, as well as problems (which we identify as 'urgencies') and also to seek out the materials available for building a resilient future for these places (by identifying what we call 'potentials'). Both of these can be found in Figure 3. In this way, we attempt to bridge the theory-practice gap by providing a methodology that provides a broad and deep understanding of these places and their histories.

Our framework for assessing these case studies contrasts the concept of the Open Society with our own empirical examinations based on fieldwork. We also base our investigations on the 64 principles of the Open Society as published in *Wonen* magazine (1971), which was a speculation on Bakema's thinking, as published in Forum magazine between the years 1959 and 1967.

For analytical clarity, we cluster these principles into different topics (using those outlined by Team X in Forum), namely Identity, Association, Cluster, and Mobility. We then filter (and reduce) the number of principles by discarding those that no longer address the needs, demands, or desires of contemporary society (and also some that are overtly philosophical questions and hence difficult to spatialise). Once this first filter is complete, we then organise the topics under headings of History; Geography and Ecology; Socio-economics; Form, Scale (density), and Matter; and Technology and Networks (see Figure 2). We then relate these to a series of critical cartographies that allow us to depict the current urgencies and potentials within the two sites. We then relate these to today's global and local urban discourses and policies and to some site-specific behaviours.

We utilise this new formulation of the 64 principles as an assessment framework for conceptual and empirical revisions, as well as to allow them act as a method of monitoring and evaluating proposed designs and processes. The assessment framework is intended to be holistic, meaning that different topics of interest, and different perspectives, will enable a more multidisciplinary attitude when approaching these complex urban matters.

In order to be able to make judgements as to whether these selected case studies have been successful or not, we go back to the original 64 principles of the Open Society to assess their spatial and performative qualities. We score the results as Successful, Neutral, or Unsuccessful. Successful shows a high degree of architectonic quality and well-executed spatial solutions; Neutral could be seen as an initial shortfall that was overcome by later improvements that achieved good spatial qualities and performance (but where there is also still some room for improvement); Unsuccessful is where a project failed to achieve spatial qualities or performance in relation to the principles.

We selected two case studies: 't Hool in Eindhoven, the Netherlands designed by Van den Broek and Bakema and Montbau in Barcelona, Spain designed by LIGS (López-Íñigo, Giráldez, Subías). The two places were selected for specific reasons: they are roughly the same size (30 ha); both are located in western Europe; both were built between the 1950s and 1970s; there is the involvement of diverse actors, with a willingness to experiment and innovate to achieve high-quality urban space. Note, that while there was a certain degree of knowledge transfer between 't Hool and Montbau, there was no conscious application of the Open Society as a concept in the latter, rather a replication of spatial arrangements that make their landing indirectly. This connection and knowledge transfer was established during LIGS's trips to the Interbau in 1957 (international exhibition in Berlin)[2] and in trips to other northern European countries to study and import the 'Sidelung' model to Barcelona[3]. The Spanish architects got inspired by Bakema's proposals and other studies carried out within the Dutch groups of the CIAM, which they applied in Montbau and later projects.

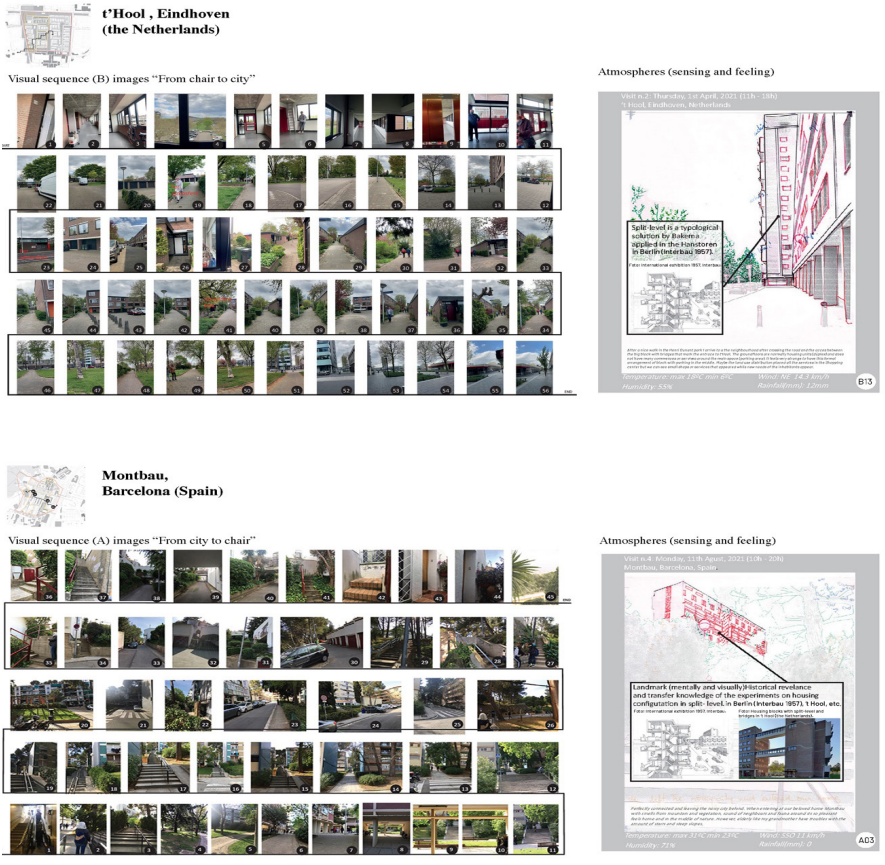

Fig. 1. Visual sequences 'from the chair to the city' in Montbau and *vice versa* in 't Hool: pictures, atmospheres (source: authors' photos from site visit; images from communities' official digital platforms and archives).

Assessment is intended to be holistic, i.e. based on topics of interest. We depict those topics in our critical cartographies. This is a practical method that seeks to address the complexity of the urban environment (and its 'wicked' problems) through a medium that enables us to reflect on the case studies using a variety of mixed methods (both qualitative and quantitative). To illustrate the different sites' power relations, and to visualise our conclusions (along with their urgencies and potentials), we use a combination of visual sequences (experiences of the sites) and data (from digital tools) to create the critical cartographies and elucidate the spatial properties of the sites (see Figures 1 and 3).

Empirical revisions of the Open Society concept, and its 64 principles, are achieved by contrasting empirical results with the principles within these critical cartographies. This method also illustrates our field work via a series of visual sequences, known as 'from the chair to the city' and *vice versa* (see Figure 1). These sequences depict the legibility of the spaces in the case

studies and also the interrelationships generated by objects and subjects. They also highlight points of what we call 'atmospheric intensity'. This provides material for studying the phenomena and patterns that have arisen in the friction between places and the imposed ideals or power structures generated by users' reaction to them (e.g. acceptance, denial, resistance, etc.), which leads us to identify the urgencies and potentials. But first, we begin with a critical survey of some literature relating to the concept of the Open Society.

3.- THE OPEN SOCIETY

The term Open Society was first coined by the Henri Bergson in 1932 using the analogy of a closed (static) mind versus an open (dynamic) one[4]. He saw this society as one where trust and transparency were guaranteed by government. This was then developed by Karl Popper who saw an historic continuum from the organic city (tribal or closed) to the Open Society (critical of traditions) leading to an abstract or depersonalised society[5]. The concept first made its appearance in the discourses of architecture and urban design when Jaap Bakema introduced it at the CIAM Otterlo meeting in 1959. Then, in 1971, a list of 64 principles for the Open Society was published in *Wonen* as a response to the needs of mass housing as highlighted by the Smithsons and Team X in *Forum*[6]. Our conceptual revision of this concept, and its principle, begins with an examination of the Smithson's Open Society's relationship with urban planning, and to the changing paradigms and frameworks in twenty-first-century society.

When this concept was first presented at Otterlo, the Team X movement was already highly critical of High Modernism and its tropes and had begun their own discussion about how the city should be designed, using fresh perspectives. Publications throughout the 1960s, such as Jane Jacobs' *The Death and Life of the Great American Cities*[7] and Christopher Alexander's *The City Is Not a Tree*[8], further informed these perspectives and contributed to this move away from High Modernism. (This was also reflected in the later Critical Regionalism, in the 1980s, although discussion of this movement falls outside the scope of this paper.) Team X's move away from High Modernism was facilitated by the delineation of the Open Society's 64 principles (which incorporated things like Jane Jacobs' bottom-up approach, or the reusing of existing structures, etc.). In attempting to understand the complexity of the urban environment we can now see the importance of cognition and behaviour (things that were largely ignored in the 1950s). Christopher Alexander's work is also of particular use in this regard, notably his pattern language and the timeless way of building.

We see the 64 principles as leading to a more holistic approach for designing the urban environment. An approach which can enable us create a place that is, quite literally, more 'open' (in the sense of inclusive or diverse). James C. Scott helps us to understand the anthropological context of these principles, and the values they carry, by pointing to state-led schemes in the Modernist-era that were imposed on people as governments attempted to render societies 'legible' (through standardisation, or the measurement of populations through apparatuses like the census)[9]. Modernism's flaw, according to Scott, was thinking that society could be designed and operated via scientific laws. The Modern movement invariably ignored subaltern

perspectives, or indeed anything to do with the everyday life and needs of ordinary citizens (apart from providing mass housing in idealised, almost diagrammatic blocks). As a result, the residents of mass-housing projects found themselves expected to live up to architects' and planners' ideals. The perceived failure of High Modernism's housing projects (notably the Pruitt-Igoe complex in St. Louis, Missouri) is considered foundational for the subsequent Postmodern movement.

The paradigms and frameworks of our society have changed considerably since the mid-twentieth century. And we will show, through our examining of 't Hool and Montbau, using the lens of the Open Society' and its 64 principles, that it is possible to identify these changes, as well as compare their different articulations across these two sites. This invariably led us to a discarding of some of the principles and the reformulation of others in order to better address today's challenges, couched as they are in newer paradigms (one of which is the notable (and visible) increase of technology in the urban environment, with things like cables, sensors, security cameras, etc.).

Overall, our two case studies will show that the Open Society has performed quite well, in an holistic and interrelational manner. Some of the principles were actually visionary: topics like ecology, communication technologies, and sociology, but they did not necessarily land well in 't Hool or Montbau because when they were built there was less concern for ecological matters. Technology has also changed rapidly since then, reorganising our lives in ways unthinkable a few decades ago.

One important thing to note is that the political situation in each of these places was not sufficiently open to allow for experimentation at the time they were built. As a result, we see a distinct lack of multifunctional spaces, or even well-designed solutions, for everyday life (this new concern for everyday life was another valuable strand in later Postmodern thinking).

By carefully observing the Open Society and its 64 principles, we get a clearer picture of the 'prototypical modern citizen' of western Europe in the 1950-1970s, characterised by dreams of car ownership (i.e. freedom) and the ability to buy consumer products. We also see the strong social character of the period following World War II, when social infrastructure within urban development was important. We also see a generous number of programmes relating to social services, and a willingness to provide better-built environments for everyone. We can, thus, introduce the concept of 'liveability', even though there is a distinct difference between the Modern Man of the Modernist era and modern (gender-neutral) 'citizens' of today; people who are much more likely to be involved in local urban affairs.

Please note that there is a degree of difficulty in measuring these principles because there is no indicator nor objective target or assessment tool. We use the concept as a theoretical framework and as a sort of toolbox (or repertoire of principles/solutions). We do this to try and reconstruct the Open Society today, while trying to keep in accordance with Bakema's original vision. However, only just over 50 percent of the principles are still valid (as we show in Table 1). This means that not only it is worthwhile to consider the Open Society and its principles as a way of articulating urgencies and potentials in the built environment, but by so doing we can improve that figure.

4. CRITICAL CARTOGRAPHIES: HISTORY

This section focusses specifically on the History cartography in order to highlight the similarities and differences between 't Hool and Montbau (see Figure 2 and Table 1). This method can also be used to interrogate other cartography topics (History, Geography-Ecology, Socio-economics, Form-Scale-Matter and Technology-Mobility). 'T Hool in Eindhoven and Montbau in Barcelona were developed in 1956 and 1968 respectively, but in quite different political contexts (liberal democracy in the former, a dictatorship in the latter). However, both share the same framework, and both have an historical value to each of their cities as good examples of the Modern movement's attempts to promote innovative urban models and improve liveability for citizens as well as promote the Open Society.

Our evaluation has taken careful consideration of the two case studies, placing particular emphasis on the beginnings of the projects, but also on their evolution down to the present day. In our analysis of these urban development processes, we have noticed a desire to improve liveability, even if the approaches are somewhat different in the two cases. Both include users at some point in their development processes.

We have prepared an overview of each site. This is intended to be a guiding document that addresses, first of all, the urgencies we detected (see Figure 3). These are organised by topic and classified into three main categories: social, economic, and environmental. These urgencies also point to potentials, i.e. problems that need to be addressed when considering new solutions. Figure 3 gives a visualisation of these case studies' urgencies and potentials and thus provides some useful knowledge to inform future design decisions.

Similarities	Differences
Both were motivated by a shortage of housing (due to emigration, industrialisation, and modernisation).	The proposal processes were different: Montbau was top-down; 't Hool bottom-up.
Both increased the number of homes: in Montbau this was achieved by increasing density; in 't Hool, the number of homes was doubled by an extension which maintained similar density levels.	'T Hool began as a private initiative linked to desires and needs of certain individuals; Montbau was promoted by a public entity (Patronat d'Habitatge) within a framework of private incentives.
Both were carefully sited, with links to existing axes from new ones.	Montbau site was selected from the beginning: 't Hool it was initially designed without a context and the site only found later on – it was a symbol of experimentation in the centre of the new Woensel District.
Professionals were involved (Bakema in 't Hool and LIGS in Montbau), both showed critical thinking and a willingness to propose improvements.	In 't Hool, Bakema dealt directly with user-clients and adapted the scheme to their needs; in Montbau the Public Administration was the client and the LIGS architecture team relied on studies (interviews, etc.) to determine the type of user to whom the action is directed.
Users were part of the process: in 't Hool, participating during the entire decision-making process; in Montbau, during the construction phase.	'T Hool is in Eindhoven, which was damaged during World War II, Montbau was not similarly damaged.
There was enthusiasm and a desire for experimentation and innovation, with a commitment from professionals to society and in promoting liveability.	

Table 1. History cartography: 't Hool and Montbau (similarities and differences).

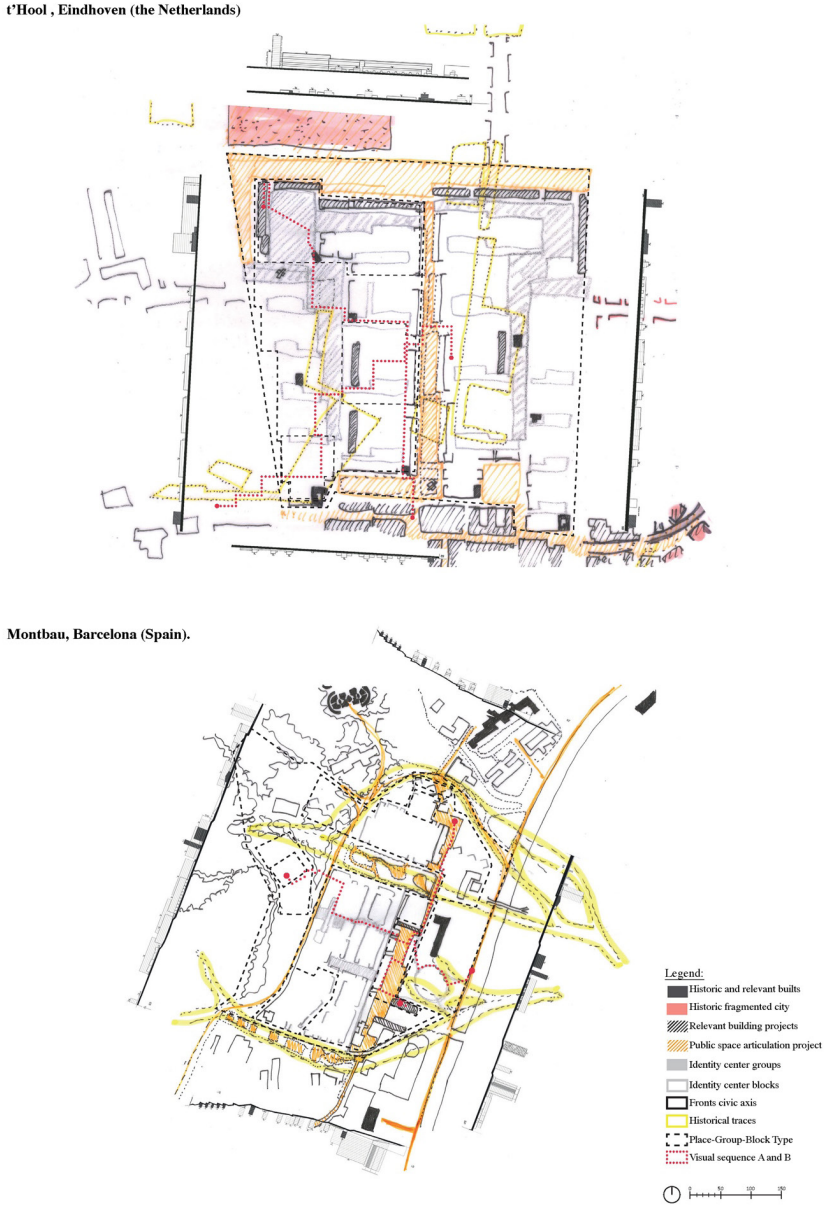

Fig. 2. Historical cartographies of Montbau and 't Hool: evaluation of the 64 principles outlined according to our framework criteria (source: authors' drawing based on Pdok and ICGC dataset (2021) and historical archived maps (COAC digital platform archive and Visie Erfgoed en Ruimte (2011) Rijksdienst voor het Cultureel Erfgoed)).

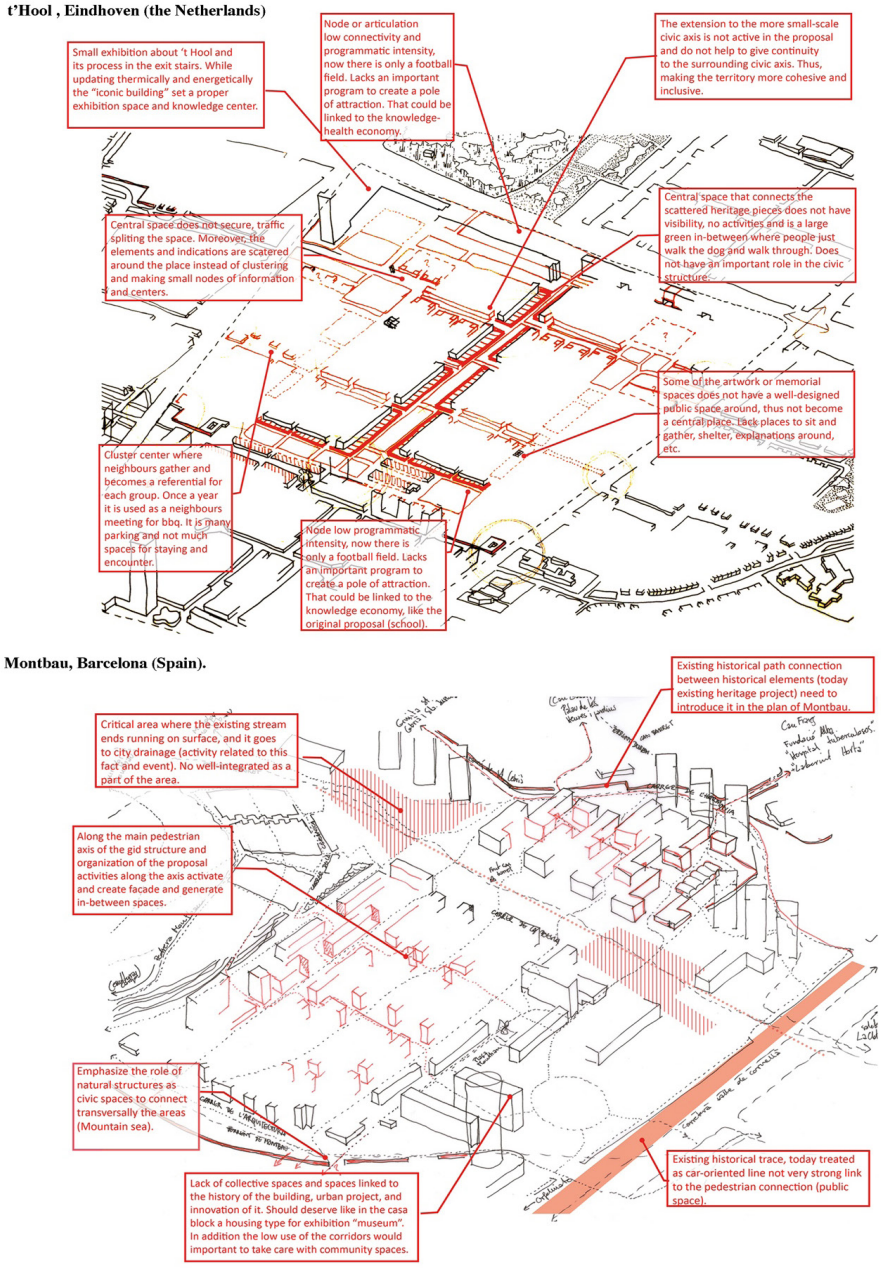

Fig. 3. Urgencies detected in the historical cartographies of Montbau and 't Hool: issues outlined in red and described in text boxes (axonometric and pedestrian view) (source: authors' drawings based on site visits, Pdok and ICGC datasets (2021), and OpenStreetMap adjusted 3d model).

5. DISCUSSION

The Open Society's 64 principles were specifically meant for Western society in the 1950s to the 1970s and reflect the way of life and values of this 'modern' era (more specifically, post-war Europe). However, as we today encounter the effects of globalisation (e.g. many different cultures living together in these areas), the needs of society for the twenty-first century are somewhat different. It seems that the majority of the 64 principles are still well aligned to today's discourses and critiques, so it would be worthwhile to revisit them, and perhaps with a more subaltern perspective this time.

One other interesting point to note is the fact that while ecological concerns were not the emphasis of these principles, they seem to have been implicit from the very beginning and have allowed for the potential adaptation of urban life to the sustainability concerns of today, particularly in the field of climate preparedness and environmental resilience.

As has already been noted, it can be quite difficult to measure the validity of the principles as there is no assessment framework, neither is there a description or indeed any sort of instructions on how to measure them. Our evaluations have taken into account how these case studies, and the people who live in them, have addressed the urgencies we have identified. There have been some successes, which are the result of good decisions at the beginning of the projects. Yet, these successes account for only a little over 50 percent of the principles. Where they do occur, however, we can attribute them to a good match between users, professionals, and institutions.

There now follows a summary of the results relating to the different categories:

1. Ecology (numbers 11, 45, and 49): in this group we can see the different sensitivity (caring) of the professionals towards history, the social concern for liveability was more important than ecological concern and we can see this reflected in the politics of the time. Now, we have more awareness, new methods, new approaches and technologies that can help address this better.
2. Civic culture (numbers 7 and 38): cultural tradition linked to many values: social, climatic, economic, have impacted the models where we can see two different ways of treating this function.
3. Cognition of the built environment (numbers 5 and 61): insufficient knowledge on behaviour and the environment means there was not enough data to address these principles here.
4. Accessibility and ownership (numbers 2 and 29): accessibility problems for certain spaces were dealt with simply through policies. Now that we have more technology and more comprehensive frameworks and regulations, we can rethink these spaces in terms of access and ownership.
5. Technology (number 58): the technology of the time was not that developed and some was not economically feasible. Nowadays, we have access to a lot of data and technologies to tackle social, environmental, and economic issues and create healthy approaches.

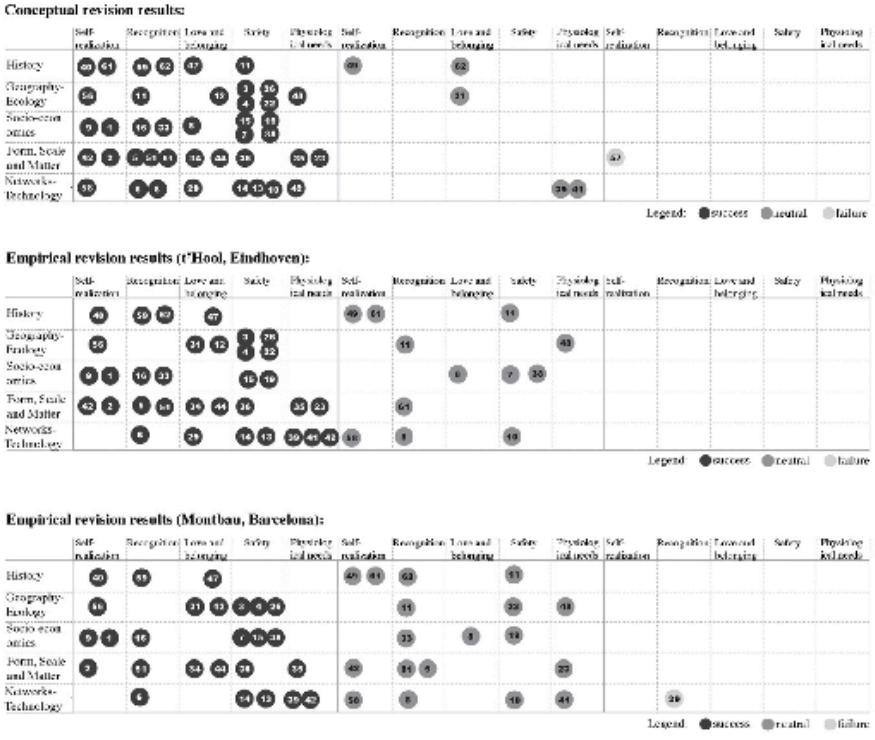

Table 2. Conceptual and empirical results according to authors' evaluation criteria.

6. CONCLUSION

Some of the key findings in these two case studies are the fact that there is a strong sense of community and ownership. This is the result of the possibility of appropriating and changing use of space over time, something that is very important for the maintenance of these spaces and for the care of the community more generally. There are also strong alliances and partnerships in both places, and a promotion of good quality space and the best practices for maintaining it. The spaces and layouts are modular and non-programmed and there is also a willingness to experiment and improve them. Finally, there is context sensitivity (i.e. these were not tabula rasa approaches). There was the understanding that these places were built somewhere specific (even if 't Hool began as an abstract exercise, it addressed local needs as soon as the site was chosen). Good design never occurs in a vacuum. The public spaces in these two case studies show clearly how good quality design is related to the intensity and use of space. If this were to be aligned with climate conditions and local culture today, then we would be able to identify the DNA of the place.

One final reflection on resilience: we can see in both projects a strong sense of community

(both diverse and inclusive) and an engagement with public institutions, as well as socially oriented projects, and environmental awareness. Yet, economic resilience is not something that can be achieved by inertia, it must be driven from the top, from institutions, from changing land uses and regulations, developments and incentives. Moreover, the emergence of more sustainable and ecological projects in recent years, and the awareness of their importance to the planet, has allowed for experimentation. These two places are socially and environmentally orientated as they engage with projects for updating their urban environments while also contributing to the common good.

Our analysis uncovered certain patterns that can be used to address spatial urgencies by seeing the potential for solutions, some of which will be more closely related to regulatory frameworks (land use, building regulations, etc.) and others that can be improved during the processes of urban renewal.

It is important to consider that users must be involved in decision-making processes and in the processes of construction in order to allow their eventual appropriation of these places (not simply from an anthropological view but also from a political one). This enables the residents to exercise their right to use the city, and to transform it through their actions. In other words, this allows them exercise their 'right to the city'[10].

This study shows the continuing importance of the Open Society, and its principles, for helping to create social, economic, and environmental resilience. These ideas also help us make the transition to new socio-technological and ecological paradigms. By providing room for diversity and self-realisation in the urban environment we will be able to allow human life to flourish, which is after all one of the most important ideas behind the concept of the Open Society.

ACKNOWLEDGEMENTS

Special thanks to Prof. Joaquín Sabaté Bel and David Martínez García for sharing knowledge on the connection Bakema-LIGS. Furthermore, for the discussions on Montbau, Barcelona case study, which allowed us to get enough insights of this place.

DISCLOSURE STATEMENT

No potential conflict of interest was reported by the authors.

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Protecting the historical city
Urban regeneration in Eastern Germany during the 1990s as a starting point for a sustainable urban development

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Abstract

Since the 1970s, the existing historical building stock gained more value. Monument protection was gradually introduced in the urban planning process as were its methods and instruments. Approaches for an urban development based on the existing building stock were made in both former german countries, GDR (German Democratic Republic) and FGR (Federal Republic of Germany), even if the extent was different. Especially with the regeneration of the historical old towns in the GDR beginning in late 1989, early 1990, the preservation of urban architectural heritage formally became an integrated part of urban development strategies in united Germany. The adaption and development of instruments to protect and develop historical city centres is part of the research project 'Stadtwende'. Surveys based on the results of qualitative expert interviews and archive research show that the 'turn' (Wende) in 1989 had an impact on the development of a planning practice that took the existing building stock into account. With regard to recent trends the paper shows the historical genesis of the preservation of urban heritage in urban planning and asks to what extend it could support a resource-saving urban development today.

Keywords

urban architectural heritage, urban monument protection, urban regeneration, funding programme, transformation of historical city centres, East Germany

How to cite

Bressler, Jana; "Protecting the historical city:Urban regeneration in Eastern Germany during the 1990s as a starting point for a sustainable urban development". In Carola Hein (ed.), *International Planning History Society Proceedings*, 19th IPHS Conference, City-Space-Transformation, TU Delft, 5 - 6 July, 2022, TU Delft Open, 2022.

DOI: 10.7480/iphs.2022.1.6448

INTRODUCTION

In recent years the crucial role of sustainable and resilient urban development has been highlighted in various places at the European level.[1] Recently, for example, the Partnership for Culture and Heritage in the EU Urban Agenda discussed built architectural heritage as a 'renewable resource'[2] for sustainable and resilient urban development. International agreements and documents have repeatedly highlighted the importance of urban cultural heritage in recent decades, as it supports aspects of sustainable urban development. These include the use of regional building materials and the strengthening of local urban culture and identity.[3]

The importance of the historical heritage of European cities for socially, economically and environmentally sustainable urban development was highlighted as early as 1990 in the Commission of the European Communities' Green Paper on the Urban Environment: 'A characteristic feature of Europe is its dense network of cities, with their wealth of history and tradition and their extensive range of activities and businesses.'[4] The concept was written with the 'problems of the urban environment'[5] in mind and aimed to improve the environment by preserving the characteristic features of European cities, in particular their compact urban structure.[6]

Since the 1960s, the preservation and conservation of cultural heritage has been discussed as part of urban development and regeneration both in European countries and in other countries around the world. In the 1970s and 1980s, the existing historic building fabric gained value, and monument protection and preservation were gradually incorporated into the planning process.[7] This development is also reflected by the Year of European Architectural Heritage 1975, an initiative of the Council of Europe. Approaches for an urban development based on the existing building stock were made in both former german countries, GDR (German Democratic Republic) and FRG (Federal Republic of Germany), even if the extent was different. They exemplify that this paradigm shift took place partly independently of the political system. The professional discourse on urban planning and architecture played a significant role in this. It took place between planners in eastern and western Europe before and after 1990, sometimes despite political restrictions. GDR and FRG were founded in 1949 as a result of the Second World War. The territory of the Soviet occupation zone became the territory of the GDR. Unlike in the FRG, urban planning in the GDR was highly centralised and urban development focused on industrialised prefabricated housing, which led to the neglect of historical city quarters.

The article explores the question of how the guiding principle of urban regeneration in keeping with the preservation of historical monuments was able to establish itself in the context of resource-saving urban development since the 1970s. Furthermore, it focuses on the development of urban regeneration in Germany, beginning with the political change in the GDR in 1989 and its effects on urban regeneration in reunified Germany. With the revival of historic old towns in the former GDR from 1989/1990 onwards, the preservation of urban heritage formally became an integrated part of urban development strategies in unified Germany.

The adaptation and development of instruments for the protection and development of historic city centres is part of the research project 'Stadtwende' (Urban renewal at the turning point - the significance of civic initiatives against urban decay for the political transformation in

the GDR), funded by the German Federal Ministry of Education and Research.[8] The research project examines the role of local protest groups against urban decay in the GDR and their significance for the Peaceful Revolution in November 1989.

One focus of the project is the analysis of the exchange of experts on urban renewal between the GDR and the FRG before, during and after the fall of communism in 1989: What impact and significance did the exchange of experts between the GDR and the FRG have on urban regeneration? Was the adaptation and development of instruments for the protection and development of historic city centres influenced by the exchange? To what extent? To answer these questions, innovations in urban planning practice and developed instruments for the protection and development of historic city centres are analysed. Surveys based on qualitative expert interviews and archival research show that the 'turn' (Wende) of 1989 influenced the development of planning practices that took the building stock into account and thus supported sustainable urban development to this day.

EXPERT EXCHANGES ON URBAN REGENERATION BEFORE AND AFTER 1989- METHODS AND RESEARCH

The project's research was based on 18 expert interviews conducted between 2019 and 2021. Urban planners, heritage managers, former employees of urban regeneration offices and administrative staff of city councils were interviewed. In general, the interviews asked about the most important effects of the political 'turn' in 1989 in the field of urban regeneration. Furthermore, the interviews aimed to analyse the networks between East and West Germany. Expert exchanges across the Iron Curtain before 1990 were examined, including planning tools and how these changed as a result of the 'turn'(Wende) and the transformation in the former GDR. The role of networks and the idea of knowledge flows across countries and borders in terms of planning knowledge, ideas and concepts have already been highlighted by Stephen V. Ward in 2018.[9] With regard to the above questions, processes such as knowledge diffusion can also be demonstrated between experts from the GDR and the FRG. Contacts and professional exchange with colleagues from non-socialist countries were not possible for most urban planners before 1989. Only those planners who belonged to a travelling cadre were able to participate in international conferences abroad. Professional exchange took place mainly through informal or private contacts and networks. Those planners who had access to international literature or international conferences were in turn able to participate in international discourses.

The expert interviews were preceded by an archive and literature research. Relevant literature was evaluated e.g. the evaluation of the 1992-1994 Federal Competition on Urban Design and Urban Conservation and the 2012 evaluation of the programme 'Protection of Urban Architectural Heritage'.[10] The development of urban monument preservation in urban design during the 1970s and 1980s is covered by a publication about the Year of European Architectural Heritage in 1975, compiled by ICOMOS in 2015.[11]

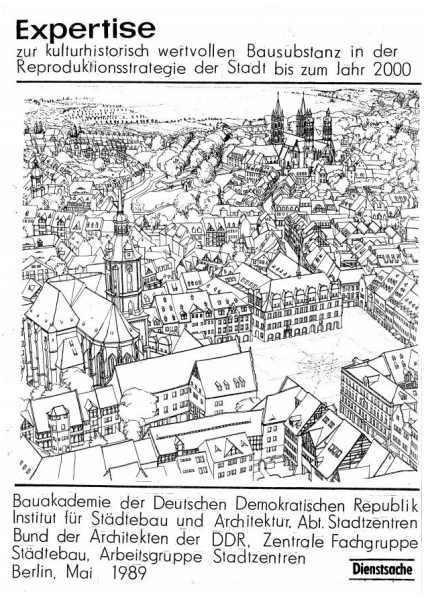

Fig. 1. Street view of the historical old town of Meissen in 1990. The city became a model project for the urban regeneration in 1990. Mostly, urban planning offices based in FGR were assigned with the urban regeneration of East Germany.

Fig. 2. Cover of an internal expertise written by the Institute on Urban Design and Architecture (Institut für Staedtebau und Architektur) of the Bauakademie. Published in Mai 1989, it focused on the development and regeneration measures for the historic and cultural valuable building stock in the GDR. It shows that the focus was on new construction, even if professional discourses demanded a rethinking of redevelopment strategies.

INTERNATIONAL DEVELOPMENTS AND APPROACHES OF URBAN HERITAGE PRESERVATION IN URBAN DEVELOPMENT

Urban regeneration has been practised for many centuries and has usually been triggered by economic growth or social upheaval.[12] However, urban regeneration has not always been understood as a 'soft' and preserving regeneration of historic city centres and neighbourhoods. Instead, demolition and reconstruction were crucial in the early stages of urban renewal. Due to population and economic growth in the post-war period, the focus shifted to existing historic buildings and neighbourhoods. Since the 1950s and 1960s, heritage conservation has been discussed as part of urban regeneration in eastern and western Europe, including the GDR and the FRG.

The Year of European Architectural Heritage in 1975 marked the high point of this development - away from the post-war idea of growth and towards a preservation-oriented urban regeneration that also focused on further development of the historical building stock. As a result, heritage conservation and urban regeneration worked more closely together in the 1980s. New strategies for the protection, development and conversion of existing historic

building fabric emerged. This development was shaped and made visible by international conventions, agreements and projects at international and European level.

The Venice Charter (1964), the International Charter for the Conservation and Restoration of Monuments and Sites, is one of the most important documents in the history of heritage conservation. For the first time, the Charter included 'not only single architectural work but also the urban or rural setting'[13] which also included 'more modest works of the past which have acquired cultural significance with the passing of time'[14] and therefore could also include buildings dating from early 20th century. The Charter also formed the basis for the establishment of the International Council on Monuments and Sites (ICOMOS) in 1965. More than 20 years later, the Washington Charter (1987), the Charter for the Preservation of Historic Towns and Urban Areas, finally brought historic districts and town centres into the focus of historic preservation and urban planning.[15]

The Washington Charter emphasised the importance of 'historic urban areas, large and small, including cities, towns and historic centres or quarters, together with their natural and man-made environments'.[16] It calls for the the preservation of these areas to be 'an integral part of coherent policies of economic and social development and of urban and regional planning' and to take into account the 'participation and the involvement of the residents'.[17] Therefore, the Charter recommends conservation plans that are preceded by multidisciplinary studies and that take different planning areas such as financial and legal measures into account.

At least since the 1970s, these agreements have initiated a change in the way the historic city is treated throughout Europe. A change that was also followed by urban planners in the FRG and the GDR.

EFFECTS OF THE POLITICAL 'TURN' IN THE GDR ON URBAN REGENERATION IN UNIFIED GERMANY

In the GDR, monument preservation had been discussed the concept of historic ensembles since the mid-1950s. As early as 1951 and 1962, monument preservation in the GDR was enshrined in law with two ordinances on the preservation and maintenance of cultural monuments. In 1962, parts of the old towns of Stralsund, Görlitz and Quedlinburg were placed under legal protection as 'monuments of urban architecture' for the first time.[18] In 1975, the GDR's Monument Protection Act also introduced the statutory ensemble protection. At the end of the 1980s, however, it became apparent that, among other things, entry in the lists of monuments had only 'a very insignificant influence on the actual preservation measures.'[19]

In the FRG, the cities of Regensburg and Bamberg, for example, had stipulated the 'preservation of the historic building structure as an independent, essential goal of renovation'[20] already at the end of the 1950s. Urban monument preservation established itself as a topic of urban development from the 1970s onwards, following planning law innovations such as the introduction of the Urban Development Promotion Act in 1971 and the amendment of the Federal Building Act (BBauG). With the act of 1971, the federal government provided a fund for urban regeneration, as a 'joint task' of the federal and state governments. In the early

years, urban development funding concentrated on the deconstruction of building fabric and new construction. In the 1970s and 1980s, land rehabilitation was gradually replaced by an approach of a 'careful' and 'soft' urban regeneration. The International Building Exhibition in Berlin in 1984/1987 and other pilot projects influenced this development. In addition, the possibility of designating preservation areas was included in the Building Code in 1976.[21] These statutes were enacted by the municipalities themselves. They could prevent the demolition, conversion or alteration of buildings that were essential to the historic townscape because of their urban planning, historical or artistic significance. The model for this legal regulation was the 'conservation areas' from the British 'Town and Country Planning Act' of 1972.[22]

The developments, instruments and theories from the 1970s and 1980s became the foundation of the expert exchanges between german urban planners in late 1989 and early 1990, following the fall of the Berlin wall and the opening of the border in November 1989. The exchange between experts from the GDR and the FRG influenced urban regeneration, especially around 1990. Due to the long-time neglect of the historic urban centres in former GDR many historical buildings were threatened with decay. The poor condition of the old towns in the GDR also became a topic of the protests that led to the fall of the Berlin Wall in autumn 1989. Pictures from Meissen's old town in 1990 show the condition of the historic buildings, some of which were uninhabited or no longer habitable. (Figure 1)

Since the building fabric and infrastructure of the old towns in the GDR were increasingly dilapidated, responsible experts from the GDR and the FRG, as well as the political and administrative leaders, quickly agreed on an urban regeneration funds: financial and technical assistance for the preservation of the historic city centres should be made available quickly and without complications. Since there was great civic commitment against the decay of the old towns, visible signs against the decay of the old towns were to be set quickly. Especially the importance of the urban regeneration for the city's society was stressed by official documents from the ministries: 'The implementation of the redevelopment measures is about visible signs for the citizens to motivate them to stay in the GDR, whereby the identification is significantly influenced by the condition of the city centres.'[23]

The preservation and improvement were also addressed by research institutes in the GDR before the political 'turn' in 1989 (Figure 2), but the expertises were not followed by actual activities and fundings for the historic preservation. A paper written by a team in the Federal Ministry for Regional Planning, Building and Urban Development in March 1990 stated that 'the cities and municipalities of the GDR now have the opportunity for cautious, historically conscious and ecological urban renewal.'[24] Prior to this, there were neither financial resources nor corresponding construction capacities for an area-wide urban regeneration. In particular, the political focus on industrial prefabricated housing reduced the possibilities for preservation. In addition, the fall of the Berlin Wall made democratically legitimised urban planning possible, among other things the cities regained their local planning sovereignty in the spring of 1990. Based on the preparatory work from the GDR, new funding programmes were launched specifically for the historic urban city centres. They can be understood as an expression of the Europe-wide turn towards the historic city.

FROM EMERGENCY AID TO PERMANENT SUPPORT FOR URBAN HERITAGE PROTECTION

In early 1990, building ministries of the GDR and the FGR agreed on two funding programmes for the GDR based on a financial project funds. A funding programme for five separately selected towns (Brandenburg, Meissen, Weimar, Halberstadt, Stralsund), to promote 'innovative models of urban redevelopment and renewal'[25], and an emergency programme were agreed on. The map in Figure 3 shows the five cities in the GDR and their city partners in West Germany around 1989/1990, as well as the border between the GDR and the FRG until unification in October 1990.

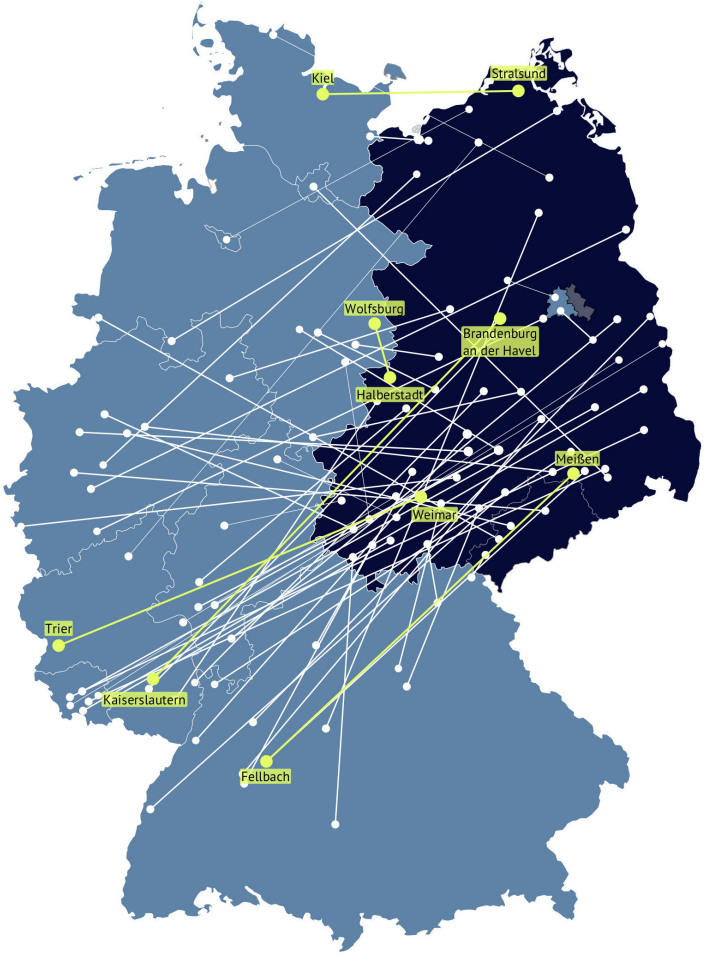

Fig. 3. Map of town twinnings between East and West Germany in 1989/1990. It also shows the border between the German Democratic Republic and the Federal Republic of Germany, united in 1990.

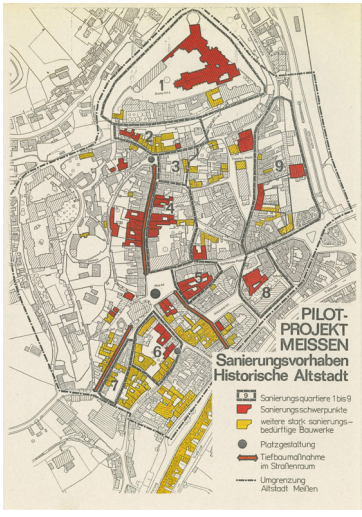

Fig. 4. The word cloud shows the focus of the renovation projects and regeneration measures in East Germany in 1990. It is based on an open list. East German cities could applicate for financial funding, which was provided mainly to renew urban infrastructure and to rescue and secure historical buildings

Fig. 5. Renovation project plan of the historical old town of Meißen in 1990. As a framework for the development and renovation of the old town of Meißen, the urban regeneration office marked focus areas of the renovation programme in the 1990s.

The funds could be used to finance the securing and renewal of buildings, urban ecology measures, infrastructures, material or technical equipment. The spatial and content-related focal points of the redevelopment measures that were financed with the funding are shown in Figure 4. Demolitions were not funded, as the funding followed the principle of 'protection and renewal before demolition and new building'.[26]

Renovation project plan of the historical old town of Meißen in 1990. As a framework for the development and renovation of the old town of Meißen, the urban regeneration office marked focus areas of the renovation programme in the 1990s. Since the planning system of the FRG was adopted and new municipal structures were still to be established in early 1990 after the political turn in autumn 1989, the regeneration processes in the cities of East Germany were mostly dominated by redevelopment agencies from the FRG. The first steps for the urban regeneration included the survey of the historical building fabric and urban structure, the enactment of preservation statutes and initial redevelopment and renovation activities. Since legally binding plans had to be drawn up first, informal planning gained importance, especially in the early 1990s.

With regard to the condition of the old towns and the associated tasks for the towns in East Germany, a new urban regeneration programme was finally introduced after the unification, specifically for the protection of historic city centres in East Germany. The programme was described as 'Sonderfoerderprogramm', a programme of an 'exceptional character'[27] in the official documents. Starting in Mai 1991, 83 cities in East Germany were initially funded in the

first year.[28] Based on the planning know-how of the GDR and the FRG, the programme 'Protection of Urban Architectural Heritage' (Staedtebaulicher Denkmalschutz) became an urban regeneration strategy for the protection and development of historic urban centres. Key aspect of this programme was the combination of instruments for urban heritage protection and urban development. With the name of the programme, a planning strategy was implemented in the German funding system that takes monument protection into account.[29]

The basis for the selection of the first programme cities and the original goals of the programme were developed jointly by experts from eastern and western Germany. From the very beginning, the funding guidelines required that the cities draw up an integrated urban development and urban renewal concept containing the objectives of the funding. A practice that was common, but was given a new impetus by German reunification. The aim of the programme was to preserve and develop the historic city centres in their urban structure and to strengthen their urban functions.[30] With the help of redevelopment newspapers, the planned measures were introduced to the citizens. For example, the first redevelopment newspaper for the old town of Meissen contained the redevelopment priorities that the redevelopment agency 'Kommunalentwicklung Baden-Württemberg' had defined by autumn 1990. Figure 5 shows the boundaries of the redevelopment area and the priority areas.

In addition, the cities had to enact preservation statutes for the historic urban ensemble that took the legal framework into account. The programme ‚Protection of Urban Architectural Heritage' focused not only on saving and preserving the heritage, but also on the social and economic development of the historic city centres. The new funding programme developed planning strategies specifically targeting built urban heritage. Heritage conservation was more integrated into the urban regeneration process. As a result, urban planners and heritage conservationists worked more closely together at the municipal level, especially in eastern Germany. In the implementation, action approaches of heritage conservation played an important role, based on plans and concepts for heritage conservation and integrated urban development concepts.

Thus, from 1991 onwards, the programme 'Protection of Architectural Urban Heritage' became an important funding instrument and 'a special protection system for the historical urban heritage.'[31] Accompanied since 1991 by a team of urban planning experts, monument conservators and other representatives, the programme was extended from East Germany to West Germany from 2009 until 2020. As Gottfried Kiesow has noted, urban heritage conservation 'does not have a specific condition to be defined, but is rather the control of a perpetual development process.'[32] He was a former state conservator and chairman of the expert team. With the programme, the preservation of historic districts and inner cities became a general component of urban regeneration and urban development funding in Germany. Under the influence of civic engagement, participatory elements were more strongly introduced into the planning and funding system.

Fig. 6. Street view of the town square in the old town of Weimar in 2020.

STILL A MODEL FOR SUSTAINABLE AND RESOURCE-EFFICIENT URBAN DEVELOPMENT TODAY?

As A.D. Basiago already stated in 1996, since the 1990s 'the sustainable city is a compact city'.[33] Until today, the compact European city is a main model for a sustainable and durable urban concept.[34] Therefore, the protection and enhancement of the historical heritage of European cities was one of the main actions suggested by the European Commission in 1990 to improve the urban environment.[35] The mixed uses, 'physical beauty and compactness of historic cities'[36] should be restored and architectural heritage protected.

The funding programme on the 'Protection of Urban Architectural Heritage' implemented these statements in its objectives: 'the safeguarding of buildings, ensembles or other facilities worthy of preservation and of historical, artistic or urban development significance; the modernisation and repair as well as the expansion and conversion of these buildings or ensembles; the preservation and redesign of streets and squares of corresponding significance.'[37] It was developed for East Germany in 1991. Based on the programmes objectives, the old urban structures were to be revitalised – for example, by improving housing conditions, safeguarding the traditional diversity of small and medium-sized enterprises, the stock-oriented closure of vacant buildings and the careful adaption of traffic routes.

In 1997, a publication on the urban regeneration in East Germany written by the 'Institut für Regionalentwicklung und Strukturplanung' (Institute for Regional Development and Structural Planning) emphasised that, especially for Germany, a dense and compact city with mixed functions and uses was essential for creating a sustainable living environment.[38] With regard to the old towns and historic urban centres the paper makes clear that a potential for a sustainable urban development is predominant here, as they have been proven to have stable urban structure lasting centuries-long, and are at the same time very adaptable. Already in this context, the historic city is designated as a resource for future generations: 'The economical, careful use of this resource, its conservation and the modern use required for its preservation are therefore indispensable work for 'sustainable development'.'[39]

CONCLUSION

To date, the programme 'Protection of Urban Architectural Heritage' has had a 'dramatic impact not only on built heritage, but also on urban regeneration and improving the urban fabric for all'.[40] Following the approaches discussed at international and national level, the development of the funding programmes developed in 1990 for the former GDR reflects the transition to urban regeneration that incorporates the existing building stock.

The EU Green Paper on the Urban Environment described sustainable development as a 'use of resources and the environment [that] should not reduce the potential of these resources for succeeding generations'[41]. The existing building stock provides an opportunity to use existing resources that are already in the environmental cycle, rather than developing new resources.

At the same time, urban heritage represents the history and character of a city and is therefore an important part of identification for urban society. The local protest groups and demonstrations against the demolition of historic buildings in East and West Germany before 1990 have confirmed this.

The expert team for the programme 'Protection of Urban Architectural Heritage' has emphasised the importance of urban heritage as a resource for sustainable urban development in its latest position paper.[42] Cities are built resources, infrastructure and buildings consist of material and energetic resources. In addition to the energy turnaround from fossil to renewable energies, a resource policy turnaround is also necessary. The intelligent and efficient use of the building stock and its expansion will be a crucial component of urban development and support a building policy based on the reuse of materials and the protection of urban spaces that convey identity and a specific urban culture. The 17 Sustainable Development Goals (SDG), published in 2015 by the United Nations underline the importance of 'sustainable cities and communities' and aim to 'make cities and human settlements inclusive, safe, resilient and sustainable'[43]. One target to implement this goal is to 'strengthen efforts to protect and safeguard the world's cultural and natural heritage'

The new funding programme in 1991 focused in particular on the conservation and development of historic urban heritage in East Germany. The most important aspect for the success of the programme in Germany was above all the combination of legal instruments and financial support. It has helped the municipalities to preserve and further develop the historic stock. Nevertheless, the implementation of the new programme followed the international approach that had emerged across Europe in the 1970s and 1980s. It is a specific german development towards a sustainable development of historic city centres. At the same time, it is a model for more sustainable urban development that focuses on built heritage. This special development was influenced by the political transformations and developments that followed the turn (Wende) in the former GDR and East Germany.

The programme 'Protection of Urban Architectural Heritage' came to an end in 2019. Its theme has been implemented in a new funding programme. However, the concept of urban heritage protection as part of sustainable and future-oriented urban development will continue in the planning system.

ACKNOWLEDGEMENTS

In addition to the TU Kaiserslautern with the Department of Urban Planning and the Department of Urban Redevelopment and Regeneration, the University of Kassel, the Bauhaus University Weimar and the Institute for Spatial Social Research (IRS) in Erkner are also involved in the joint project "Stadtwende" funded by the German Federal Ministry of Education and Research. (www.stadtwende.de)

DISCLOSURE STATEMENT

No potential conflict of interest was reported by the author.

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British and European planning
An uncertain and intermittent engagement

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Abstract

Brexit, the UK's departure from the EU, did not happen for urban planning reasons. Rather Brexit partly reflected longer term uncertainties about the relative importance of UK's 'three interlinked circles' – its connections with the British Empire/Commonwealth; its so-called 'special relationship' with the USA; and its European geographical proximity. Over time, competition between these 'circles' have fostered confusion about Britain's global affinities and loyalties. There have also been parallel uncertainties in long term flows of planning knowledge to and from the UK. This paper briefly reviews these, with vignettes of planning knowledge circulation at various dates. After considering inherited differences between UK and European urban development, British international pre-eminence in urban expertise during the mid-late 19th century is noted. This confidence changed as doubts about British global prowess grew around 1900, encouraging especially a strong mutual Anglo-German exchange of urban planning knowledge. However war then disrupted this, although it subsequently resumed, if less enthusiastically. Instead Britain's wartime transatlantic and imperial planning links strengthened and, despite geographical distance, continued in subsequent decades. During the 1930s, there was some British flirtation with totalitarian planning approaches, though ultimately the strengthened urban and regional planning of New Deal and wartime America had greater appeal. In the European 'circle', the late 1930s also saw growing British admiration for Swedish 'middle way' planning, which strengthened in the 1940s and 1950s. The early post-1945 years also saw British planning being held in high esteem throughout Western Europe. Yet, apart from the Swedish link and some highly selective use of planning knowledge from other European countries, the connection was not reciprocated. Even as it lost its more collectivist planning tendencies in favour of delivering the urban basis for affluent consumerism, the USA and the wider late imperial world dominated British planner's international interests during the 1940s, 1950s and into the 1960s. Yet, as Empire ended and limits to its American 'special relationship' became more obvious by the 1960s, the sense of Britain within an emergent European project grew, with clear planning parallels. Even as the UK joined the EEC in 1973, however, new policy parallels with the USA appeared, associated with metropolitan decline. These went much further in the 1980s as an Anglo-American neo-liberal model began to emerge, generating a form of planning noticeably different from continental Europe. While some aspects were subsequently taken up in Europe, it never fully appealed there. Conversely, many established features of the more interventionist European planning approach seemed

more successfully to help mitigate Anglo-American-style metropolitan decline. During the 1990s, the UK therefore began more wholeheartedly to embrace European urban planning approaches, peaking in the early 21st century. Simultaneously, however, the movement against the UK's EU involvement grew, especially after the 2008 economic downturn and the harsh austerity policies which ensued. Despite many important UK-European connections encouraged by EU initiatives, the future of these is now uncertain or what will follow it.

Keywords

Britain, Europe, Brexit, international flows of planning knowledge

How to cite

Ward, Stephen, "British and European planning: an uncertain and intermittent engagement". In Carola Hein (ed.), *International Planning History Society Proceedings*, 19th IPHS Conference, City-Space-Transformation, TU Delft, 5 - 6 July, 2022, TU Delft Open, 2022.

Reshaping the city?
Urban design in the Portuguese 1970's on the Tagus Estuary territory

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Abstract

The public housing that was being produced in Portugal since the Second World War evolved by the late 1960's from small or medium size neighbourhoods to large scale urban plans that were supposed to provide numerous dwellings to major Portuguese cities, as the lack of housing gained enormous proportions in the country. From the final period of the dictatorial regime that ruled the country to the 1974 revolution and the democracy that emerged, there were being developed urban plans to Lisbon, Oporto, Setúbal, Guimarães and Aveiro among other Portuguese cities. A new public planning office – the Fundo de Fomento da Habitação (FFH) – was created and entrusted with the development of this planning process, substituting the Federação das Caixas de Previdência (FCP), that worked in a regional basis. This was intended to take control of the urbanization progression by the government, thwarting the spontaneous and disorganised growth that was already taking place in the peripheral areas of major cities, mainly Lisbon. At this period, further developed European countries had already resolved their own housing problems, and the newly produced urban fabric, based in modernist models and ideas, was being criticised for its lack of humanity and its incapability of generating urban life. There was no longer, however, the pressure to create new city, and the public and disciplinary debate pulverized into different aspects of the planning process and of the design. In Portugal, as in other peripheral or less developed countries, it was still needed the construction of dwelling and urban fabric, and the criticism that emerged from the Charte d'Athènes based plans led, in some cases to the rethinking of modernist solutions and the research towards new ideas about urban form. The FCP and FFH plans, conceived during a period of intense transformation of the Portuguese society, created the opportunity for the development of new and ambitious urban design propositions, as planners and architects were involved in the political and social revolution at the moment, and ambitioned to put in practice new ideas that could suit the reborn society, attending to its requirements being therefore part of it. Tagus and Sado Estuaries territories, the most heavily industrialized areas of the country, where Lisbon and Setúbal are located, concentrated the main FFH plans in the turning of the 1970's, as they already had previously, with the FCP, although there was a scale shift towards a much larger dimension, aiming at creating new towns that would provide dwelling to the necessary labour force. This paper, through case studies analysis based upon archive research, documented by model photos and drawings, proposes to examine these plans comprising the work of architects like Vassalo Rosa, Vítor Figueiredo, Bartolomeu C.

Cabral, Manuel Salgado and Charters Monteiro, that alongside Aldo Rossi, Vittorio Gregotti and others, tried to imagine a new urban design in the wake of this new time that emerged before them. Urban concepts, space and form are the focus of this analysis, identifying similar or different approaches and solutions.

Keywords

urban design, public housing, modernist city, Portugal, Tagus estuary

How to cite

Seco, Rui,, "Reshaping the city? Urban design in the Portuguese 1970's on the Tagus Estuary territory". In Carola Hein (ed.), *International Planning History Society Proceedings*, 19th IPHS Conference, City-Space-Transformation, TU Delft, 5 - 6 July, 2022, TU Delft Open, 2022.

6 JULY: SESSION 4.2

NATIONAL HERITAGES.

Chair: Stephen Ramos

An Evaluation of Istanbul Bosphorus Heritage Conservation with the Historic Urban Landscape Approach

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Abstract

The extension of the conservation approach to a holistic scale has laid the basis for studying conservation within the context of the historic urban landscape. In 2011, the historic urban landscape was proposed as a contemporary approach in the Recommendation on the Historic Urban Landscape by UNESCO. This approach indicates the integrated description of distinct elements in historic urban areas, which include natural and cultural, tangible and intangible, international and national heritage values within different historic layers, and recognition of the connection between these historic layers. The "landscape" term addresses the historic urban areas related to topography and describes the qualified conservation of urban heritage by addressing natural and cultural assets as a whole. The approach of addressing natural and cultural assets together under the scope of conservation and specifically the inclusion of human needs in the conservation process have gained importance because of the rate of intensification of modern cities and the intricate interactions that they are subject to. In this context, this study aims to examine the conservation of the Istanbul Bosphorus that has been a target of change as a historic urban landscape. Bosphorus is a waterway that connects Asia and European continents as well as it is the core of urban vitality in Istanbul, Turkey. With its unique cultural and natural heritage values, it always has been a special matter in urban conservation. In 1983, a special law which is called the "Bosphorus Law" was enacted. The law aims to sustain the integrity of the historic cultural and natural assets of Bosphorus together with its authentic silhouette and intangible heritage aspects. In this scope, the law sets regulations to conserve the existing balance of the natural and built environment. It was observed that the legal process, which was initiated in 1983, and its scope have been compliant with the historic urban landscape context. Despite the compliance of the legal process, the applied practices on the urban scale have been found inadequate to conserve the integrity of Bosphorus. The discussion of this problem constitutes the second purpose of the study which is the evaluation of the change and its severity. Initially, objectives, criteria, and indicators of cultural tangible, natural tangible, and intangible heritage values were identified within the historic urban landscape approach. Later, the change of each indicator was analyzed between 1983, 2015, and

2018 retrospectively to comprehend the amount of the change and its triggers. Finally, the role of measures that are stated in the Bosphorus Law was evaluated.

Keywords

Historic Urban Landscape, Limits of Change, Bosphorus, Istanbul

How to cite

Koyunoglu, Balin; Zeren Gülersoy, Nuran "An Evaluation of Istanbul Bosphorus Heritage Conservation with the Historic Urban Landscape Approach". In Carola Hein (ed.), *International Planning History Society Proceedings*, 19th IPHS Conference, City-Space-Transformation, TU Delft, 5 - 6 July, 2022, TU Delft Open, 2022.

DOI:

Étienne de Groër and the Planning of Lisbon Region
The role of green spaces

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Iscte Lisbon University Institute

Abstract

This presentation provides an analysis of the processes of urban planning transformation proposed for Lisbon Region, by Étienne de Groër, in mid twentieth century. In particularly it regards the role of the green spaces in the urban planning and urban design of Groër's proposal. Secondly, it examines the implications of such spatial outcomes on the contemporary Region of Lisbon, while identifying possible opportunities to rethink the green areas in present and future urban planning policies and urban design agendas, guided by Sustainability concerns. In order to do so, the conceptual and the spatial outcomes (urban and territorial design solutions) for the planning proposal of Lisbon and its Region, as proposed by Étienne de Groër between 1930's and 1950's are here examined and compared to its current situation. Groër was an architect-urbanist of Polish-Russian origin which was formed at the IUUP in Paris and was contracted by the Portuguese Minister of Public Works and the City Council of Lisbon to delineate the Plans for the New City of Lisbon and its Region. The context that frames this presentation is grounded on the recognition that the great acceleration process, which implicated a new geologic era, the Anthropocene, dates to the end of the first half of twentieth century. A period of time when urban design and the study of urban form (urban morphology) also emerged as new scientific disciplines to cope and respond to the major societal issues imposed by contemporary problematics; which affected most urban areas (such as the provision of housing, mobility, sanitary and water infrastructures). Furthermore, such knowledge was fundamental to provide a creative context of new urban form solutions, including for green areas. Yet, today, the request for Sustainability and the emergence of a number of related agendas (The Agenda 21, The Milan Agreement, Urban Agenda Habitat III, among others) do confirm the lack of sufficient urban design (urban form) solutions to counteract urban planning through the use of green areas. Finally, this presentation aims to reflect on the role of green areas to rethink a sustainable transition of contemporary urban planning and design approaches.

Keywords

Green Spaces, Garden City, Urban Planning, Étienne de Groër, Portugal

How to cite
Marat-Mendes, Teresa; "Étienne de Groër and the Planning of Lisbon Region: The role of green spaces". In Carola Hein (ed.), *International Planning History Society Proceedings*, 19th IPHS Conference, City-Space-Transformation, TU Delft, 5 - 6 July, 2022, TU Delft Open, 2022.

Genealogy of Urban design in Brazil
Notions and practices

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Abstract

This paper aims at exploring the conceptual foundations of Urban Design in Brazil and its correlations with the international scenario. The constitution of urban design as a discipline in Europe and the United States responds to the reconstruction of cities after World War II, the expansion of housing policies and the consideration of architectural heritage as a cultural value. In general, the origin of the term is related to the conference organized by Josep Lluís Sert at the Harvard University's Graduate School of Design. However, the roots of urban design may be found at the turn of the 19th century (https://gudesign.org/mission/). In Brazil, efforts to establish urban design were noticed when a series of seminars was held in Brasilia in mid-1980s (SEDUR - 1984, 1986, 1988, 1991). These meetings were held in the context of the re-democratization of the country – after a two-decade dictatorship (1964-1986)-, when political openness fostered critical debates about different aspects of Brazilian society. The SEDUR discourse criticized rationalist urbanism and drew attention to the physical aspect to cities, endorsing urban morphology, preservation and renovation of traditional settings, and addressing a different approach to informal settlements, urban expansion and new towns. Focusing on the outcomes of this approach, this paper accounts for the international references and the conceptual base of urban design in Brazil. It thus contributes to the genealogy of urban design not only in Brazil but also in a more global context, as the related authors are members of the international GUDesign network (Genealogy of Urban Design).

Keywords

urban design, planning diffusion, transnational planning

How to cite

Rego, Renato Leão; Leme, Maria Cristina da Silva; Pescatori, Carolina; Roldan, Dinalva Derenzo, "Genealogy of Urban design in Brazil: notions and practices". In Carola Hein (ed.), *International Planning History Society Proceedings*, 19th IPHS Conference, City-Space-Transformation, TU Delft, 5 - 6 July, 2022, TU Delft Open, 2022.

6 JULY: SESSION 4.3

BORROWING FRENCH EXPERTISE.

Chair: Clement Orillard

The French Character of Québec and Montréal Modernization of Urban Planning (1960-1979)

Frederic Mercure Jolette
Cégep de Saint-Laurent

Abstract

This paper will unfold the link between the modernization of urban planning in the province of Québec and its linguistic specificity, i. e. the fact that Québec is the only province in Canada to have a majority of francophone inhabitants. In 1979, Québec was the last province in Canada to implement an urban planning legislative framework, more than 60 years after other provinces took up the issue (Wolfe 1994). Usually, this significant delay is explained by the anti-urban aspect of the Franco-Catholic ideology embraced by most of the provincial elites before World War II (Meunier & Warren 2002). However, in 1960s a new class of nationalists and modernists elites emerged, and with them an important reversal happened. Indeed, at that time, modern urban planning and land protection became an important part of the neo-nationalist discourses in Québec, and since then, most reforms to modernize urban planning in Québec were implemented by nationalist parties in favor of the protection of the French culture. In the early 1960s, the first reforms in urban planning were implemented by the neo-nationalist Liberals in the context of the so-called Révolution tranquille. After that, the Party Québécois took over those issues and implemented a series of reforms, the last important one being the municipal merger in the early 2000s. Also, the first official urban plan of Montréal was put in place by the RCM, a party very close to the Party Québécois in 1992. In this paper, we will analyze the impacts of the linguistic question on the way urban planning is practice and debate in Québec. First, we will show how in the late 50s and in the 60s, the need for a French expertise stimulated important international exchange with France and Belgium. Stephen Ward (1999) has shown that before the 60s Canadian planning was characterized by weak professional milieux and, for that reason, has received the diffusion of British and U.S. ideas without much negotiation or appropriation. But in the 60s and 70s, experts and nationalist leaders of Québec turned away from Britain and borrow French models and expertise to build a francophone planning culture. This resulted in a series of new institutions like the Institut d'urbanisme which has strengthened the specificity of the professional milieu in Québec. However, this has isolated it from the rest of Canada in a moment when Toronto was overcoming Montréal as Canada's metropolis. Secondly, the ambitions of the Francophones in Montréal were seen with disdain and apprehension by anglo-Montrealers living in the near

suburbs. Not wanting to lose their political and linguistic specificity, the anglophone suburbs of Montréal have always been very reluctant to accept metropolitan regulation (Bérubé 2015). The nationalists were also having a thought time negotiating with the federal government and this resulted in fragmented political institutions regarding urban planning in Québec. In conclusion, we will show that the appropriation of urban planning by the neonationalist project in Québec in the 1960s and the 1970s had paradoxical effects. On one side, it reversed the negative traditional franco-Catholic view of the dangerous big city and it has consequently bolstered the leverage of urban planning discourse in the public sphere. But, on the other, it seems to have put an impossible burden on urban planning, that is the francization of Montréal and the protection of the French character of Quebec.

Keywords

Québec, Montréal, Modernization, French Expertise, French Culture, Diffusion

How to cite

Mercure Jolette, Frederic, "The French Character of Québec and Montréal Modernization of Urban Planning (1960-1979)". In Carola Hein (ed.), *International Planning History Society Proceedings*, 19th IPHS Conference, City-Space-Transformation, TU Delft, 5 - 6 July, 2022, TU Delft Open, 2022.

French “urbanism” in Argentina
From officials to experts. 1907-1932

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UNGS - FADU, UBA
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Abstract

Since the last decades of the 20th century, the intensification of transnational exchanges of ideas, models, and urban policies fostered a growing academic interest in analyzing the circulation of ideas, experiences, and ways of doing things. Scholars re-worked anthropological notions of “acculturation” and “transculturation” focused on the dynamics of international exchanges. Seminal studies gave rise to a wide range of concepts such as “transfer” and “translation” in the 1980s, “export-import” in the 1990s, and more recently “networks”, “circulation” and “mobility”. We propose to reexamine the dynamics of these exchanges in the early twentieth century focusing on the performance of three experts hired by the Municipality of Buenos Aires in different historical scenarios: a. Jean-Joseph Bouvard, summoned in 1907 to prepare a Plan of embelissement and Extension, b. Jean-Claude Forestier invited by the Plan of the Building Aesthetics Commission in 1923, c. Carlos Maria della Paolera, alummi of the Institut d’Urbanisme de Paris, who takes over in 1932 as Director of the Urbanization Plan. In relation to the scope of urban planning and the profile of specialists, we will examine the role assumed by foreign professionals, as the field is locally institutionalized with university graduates. Secondly, we will review “export” policies, considering the conditions of recruitment of experts, resulting from the relationship between “French supply” and “local demand”. Finally, we will analyze translation processes, considering what experts “bring”, what they “take”, and how their proposals are negotiated in relation to local ideas and practices.

Keywords

French “urbanism”, transnational exchanges, circulation of ideas, Argentina

How to cite

Novick, Alicia; Zanzottera Maria Guillermina, “French “urbanism” in Argentina: From officials to experts. 1907-1932”. In Carola Hein (ed.), *International Planning History Society Proceedings*, 19th IPHS Conference, City-Space-Transformation, TU Delft, 5 - 6 July, 2022, TU Delft Open, 2022.

A French Moment in Shanghai Planning (1986-2000) ?

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Université de Technologie de Compiègne - AVENUE

Abstract

In 1992, the municipality of Shanghai opened an international consultation for the Lujiazui Central Business District in the growing sector of Pudong in Shanghai with five architectural teams invited. The organization of this consultation was backed by the "Groupe français de soutien au développement de Shanghai-Pudong" established by the French ministère de l'Equipement in charge of urban planning. It followed a meeting that had taken place one year before between the French minister, the mayor of Shanghai and vice-premier Zhu Rongji who looked at La Defense, Paris as a model (Hu & Chen, Global Shanghai Remade: The Rise of Pudong New Area, London: Routledge, 2019). This event was not isolated but appeared as a peak in broader exchanges between French and Chinese planning experts and officials that focused in particular on Shanghai's transformations. It followed the early recognition by France in 1964 of the People's Republic of China's regime. However, if broad discussions existed between French and Chinese ministries in charge of planning since the late seventies, the exchange of planning expertise arose only around 1984. It was rooted in a new bilateral agreement organizing French technical aid in the sector of infrastructure and the built environment in China. It was also fueled by the development of a new local diplomacy by the recently decentralized Region d'Ile-de-France, the local authority encompassing Paris and its suburbs. Its planning agency, the Institut d'aménagement et d'urbanisme de la Région d'Ile-de-France (IAURIF), and their planning studies abroad was key in this diplomacy. Aiming to connect metropolitan local authorities all around the world, which eventually ended in the creation of the network Metropolis, it made collaboration with China a key point. Indeed, technical aid came from different origins but was coordinated by the Direction des affaires économiques et internationales of the French ministry of Equipment which focused on China in particular. French technical aid was instrumental for the municipality of Shanghai when it sought to control its urban development following its recent opening to foreign investment. It came mainly from two different origins. The IAURIF worked during more than two decades for the municipality. It helped to revise its 1986 Masterplan that quickly appeared out-of-date, to envision Pudong as a place for planned development, and to plan a North-South corridor in Puxi. In parallel the Institut français d'architecture (IFA) supervised by the ministère de l'Equipement studied preservation and redevelopment of the Qianjiatang quarter. This work and many seminars regarding design issues paved the way in particular for the development in Shanghai of the French architectural firm ARTE-Charpentier, which obtained several design commissions including Pudong's Century Avenue (1998-2000) won with La Defense development corporation.

Beyond institutional ties, this development of French expertise in Shanghai appears to have also been grounded in earlier personal involvement in Chinese language and culture of the two main experts. This paper will analyze this complex case study of the exportation of expertise showing how it involved diplomacy and economic expansion issues but also investigating if the personal involvement of the main key experts built a common French Chinese episteme during this period. It will be mainly grounded in national and local archives but also in the interviews of the two key experts from the IAURIF and the IFA/ARTE-Charpentier.

Keywords

Transnational exchanges, Exportation of French expertise, Use of foreign expertise in China, Institutions and individuals, Pudong development

How to cite

Orillard, Clement; Henriot, Carine, "A French Moment in Shanghai Planning (1986-2000)?". In Carola Hein (ed.), *International Planning History Society Proceedings*, 19th IPHS Conference, City-Space-Transformation, TU Delft, 5 - 6 July, 2022, TU Delft Open, 2022.

6 JULY: SESSION 4.4

SOCIAL JUSTICE.

Chair: John Hanna

Transforming urban/metropolitan planning in the South

Ideas, practice, and educational experimentation in Belo Horizonte, Brazil

Geraldo Costa, Heloisa Costa
Federal University of Minas Gerais

Abstract

Different approaches and objectives regarding comprehensive urban planning can be identified in Brazil, according to its several phases since it was institutionalized in the 1970s: a) isolated initiatives of what was called Local (and Metropolitan) Integrated Development Plan (PDLI) (1966-1973); b) Nationwide Urban Development Planning (1975-1979); c) Democratic/Participatory Urban Planning (being constructed/adopted since the early 1980s); d) Strategic Urban Planning (since the neoliberal wave from the 1990s onwards); and e) a new wave of metropolitan planning (2000s). The authors have been directly involved in all phases of this process, either as planners (items a, c and e) and/or as critical analysts of experiences and methodologies (all phases). In spite of many published evaluations of the trajectory of Brazilian urban planning, most of them are in Portuguese, therefore with this paper we aim to contribute to reach larger audiences for such debate in other languages, mainly English (e.g. Costa, G., Costa H., Monte-Mór, 2021; Costa, H., Costa, G., Monte-Mór, 2021; Costa, Melo, 2018; Monte-Mór, Costa, Costa, Melo, 2016; Costa, Tonucci Fo., Mendonça, 2014). Besides that, our intention with the paper is less a description of experiences and mainly to provide a critical assessment of methodologies and of planning theory from within experience. We argue that along those phases methodologies moved (not without some setbacks) from top-down technocratic approaches to participatory and learning by doing methodologies. This is particularly the case of a recent experience in which the authors were involved for the last decade (2009-2019), of metropolitan/urban planning for the Metropolitan Region of Belo Horizonte (MRBH), in Southeast Brazil, an agglomeration of approximately five million people. The experience was unique in Brazil, since it was carried out by a group of almost 200 faculty and students of the Federal University of Minas Gerais (UFMG), Brazil, as an ensemble of extensionist activities, which includes some innovative advancements in planning – that will be presented in the paper -, a creative methodology based on a process of learning by doing, together with a relatively widespread participatory process aiming at building possibilities of social control and social/political emancipation. The experience included the development of three main instruments: a metropolitan master plan, a macrozoning of the areas where metropolitan interest prevailed over local interest, and the revision/preparation of municipal master plans for 11 out of the 34 municipalities that belong to the Metropolitan Region

of Belo Horizonte. Alongside the process, we could identify what is expressed in one of the conference subthemes: Transformations of city master plan ideas. The paper will emphasize two dimensions of such new ideas: the possibility to achieve social control of the planning process, and the introduction of another means of territorial restructuring, moving from the usual abstract space emphasis – infrastructure, centralities, etc – towards a more intertwined approach between nature, culture and urbanization by means of the proposition of a green-blue weft to be identified and adopted in different spatial scales.

Keywords

masterplans ideas, metropolitan planning, environmental renovation, comprehensive/emancipatory planning, South America/Brazil

How to cite

Costa, Geraldo; Costa, Heloisa, "Transforming urban/metropolitan planning in the South: ideas, practice, and educational experimentation in Belo Horizonte, Brazil". In Carola Hein (ed.), *International Planning History Society Proceedings*, 19th IPHS Conference, City-Space-Transformation, TU Delft, 5 - 6 July, 2022, TU Delft Open, 2022.

Urban planning and politics
Contradictions, continuities and ruptures during the 1960s in Brazil

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Abstract

This paper aims to reflect on the relationship between urban planning and politics in Brazil from the 1930s through to the beginning of the 1970s. During this period, it is possible to observe a number of processes in the field of urban planning: a gradual, complementary link established between the field of knowledge and professional practice; an expansion of the area covered by studies, analyzes and proposals; and a link between plans, proposals and State actions. A number of different institutions were organized with the aim of elaborating, discussing and executing plans, and were central not only to the process of building and legitimizing different aspects of exercising the professions of the urbanist and the urban planner, but also for the diffusion of a new conception of plans and urban instruments. The period, with its political and economic determinations, was not homogeneous, and also presented significant differences, including periods with authoritarian and democratic governments, thereby rendering a strong impact on the political and intellectual environment, focusing on political structures and on political and civil rights. We therefore propose to address the slow institutional construction of formulating urban policy, the contradictions between a progress project and a new social order, and finally the ideological crisis of urban planning in the 1970s and the signs of its transformation.

Keywords

Urbanism, urban planning, politics, Brazil

How to cite

Silva Leme, Maria Cristina da; "Urban planning and politics: contradictions, continuities and ruptures during the 1960s in Brazil". In Carola Hein (ed.), *International Planning History Society Proceedings*, 19th IPHS Conference, City-Space-Transformation, TU Delft, 5 - 6 July, 2022, TU Delft Open, 2022.

DOI: 10.7480/iphs.2022.1.6476

INTRODUCTION

When analyzing the field of urbanism and the activities of urban and regional planning during the extensive period between the 1930s through to the beginning of the 1970s, it may be observed that a number of processes took place: a gradual, complementary link was established between the field of knowledge and professional practice; an expansion of the area covered by studies, analyzes and proposals; and a link between plans, proposals and State actions.

Throughout both the states and municipalities, different institutions were organized with the aim of elaborating, discussing and executing plans, and were central not only to the process of building and to legitimizing different aspects of exercising the professions of the urbanist and urban planner, but also for the diffusion of a new conception of plans and urban instruments. They constituted a group of institutions that expanded during the 1950s and 1960s within a new institutional framework marked by industrialization and growing urbanization

The timeframe adopted, with its political and economic determinations, was not homogeneous and demonstrated significant differences during the period of the Getúlio Vargas government, between 1930 and 1937, and the brief democratic period between 1945 and 1964. The civil-military coup of 1964 initiated a period of profound political transformation, which became radicalized over a five-year period in a crescendo of intervention and violence, rendering a strong impact on both the political and intellectual environment, thereby affecting the political structures and political and civil rights.

URBANISM: THE GRADUAL, COMPLEMENTARY LINKS BETWEEN THE FIELD OF KNOWLEDGE AND PROFESSIONAL PRACTICE.

In Brazil, teaching urbanism did not precede the practice of urban planning, but was rather a posteriori, with the clear aim of legitimizing it. It was made up of experiences gained from remodeling central areas, sanitation projects, opening and extending highways and from drawing up urban legislation.

From the beginning, links could be observed between the activities of educational institutions, public administration, and firms, in developing plans and projects for cities and carrying out work contracted both by the government and by national and foreign companies[1].

It is possible to observe the specificities that teaching urbanism has acquired within the different institutions, and which may be attributed to the technical, political and cultural environment into which education is inserted. This relationship was presented in a differentiated manner in cities throughout the twentieth century.

A contributing factor towards these processes was the growing consolidation of this field of study from being strongly rooted within educational institutions, thereby defining a space on

undergraduate and graduate courses, which was complemented by professional regulation. The slow incorporation of other fields of knowledge into engineering and architecture took on new forms during the late 1960s, with the creation of postgraduate courses in economic development and urban planning.

The specialization of teaching urbanism was accompanied by a more precise definition of professional regulation. The labor legislation, proposed and implemented by the Getúlio Vargas government, introduced a move for detailing and increasing the regulation of professional practice towards holders of university degrees.

Amongst the regulations, Federal Decree No. 23,569, on December 11, 1933[2], defined that the "design, direction and inspection of urbanism services" were the exclusive responsibility of a civil engineer, architect engineer and architect. In 1946[3], the profession of urbanist became regulated and a specific training in urbanism was defined at a federal level.

It may be observed that an understanding was underway regarding the insertion of urbanism into the field of architecture. Some evidence appeared in the recommendations of international forums, such as the Pan American Congress of Architects. From the time of the second meeting, held in Santiago de Chile in 1923, there was much debate on expanding the field, with recommendations for teaching urbanism in architecture schools. When comparing the themes covered in the Pan American Congresses of Architects to those of the Ciam (International Congresses of Modern Architecture), Atique (2014, p. 12) observed the contrasts between the themes addressed and the adherence of problems in very different contexts[4]. At the seventh congress, held in Havana in 1950, the thesis of architecture and urbanism was proffered explicitly as a single discipline, in order to train urbanists and planners so that they were "capable of understanding the changes in scale between the building and the city"[5] (ATIQUE, 2014, p. 12).

On another front, a movement for the autonomy of architecture in relation to engineering and the fine arts and defending the creation of independent courses also received support from the then recently founded regional departments of the Brazilian Institute of Architects (known in Brazil as IAB)[6].

In São Paulo, a movement towards autonomy began in 1947, when the Faculdade de Arquitetura Mackenzie was created. One year later, at the Universidade de São Paulo, having broken away from the Escola Politécnica[7], the Faculdade de Arquitetura e Urbanismo made a proposal to link the two degree courses: a five-year undergraduate course in architecture and a postgraduate course in urbanism, for those who had graduated in architecture or engineering, lasting two years[8]. The proposal at the Universidade de São Paulo to separate undergraduate courses in architecture and postgraduate studies in urbanism was a precedent that had been set by other Brazilian cities and by examples in the UK, US and Latin American cities[9].

With a similar format, taught over two years and aimed at graduates in engineering or architecture, in 1948, lato sensu postgraduate courses in urbanism were created, with the objective of training technical staff at the Faculdade de Arquitetura at the Universidade de Minas Gerais[10], in 1952, at the Faculdade de Arquitetura in Porto Alegre; and a year later at the Uni-

versidade Federal de Rio de Janeiro.

However, as Birkholz (1967) observed, there was a paradox between training received through postgraduate studies in urbanism and being attributed as a professional. This inconsistency may explain the short duration of some of these courses: restricted only to those with degrees in engineering and architecture, a specialization in urbanism did not add any professional advantage to the provisions of the decree.

When the Center for Urban Research (CPEU)[11] was created in 1955, it established a new perspective for the architecture course regarding the traditional manner in which urbanism had been taught in engineering schools, and aimed to conduct research, analysis and preliminary inquiries for executing partial or general urban planning; organize master plans for those municipalities that desired them; create plans and studies related to housing, land use, regulations and programs; enable students to practice and work on the architecture course and on the urbanism course at the faculty; and enable advertising, education and dissemination in order to facilitate the solution of urban problems[12].

The performance of the abovementioned center reveals how the activities in urban planning expanded, which until that moment had been greatly restricted to capital cities and to a few medium-sized cities. It confirmed the growing political importance of municipalities in the 1950s.

The CPEU was not an isolated experience in establishing links between teaching and technical assistance for municipalities. In 1962, Antonio Bezerra Baltar formed the Center for Urban and Regional Research (CEPUR) at the Faculdade de Arquitectura at the Universidade de Recife.

After redemocratization and the 1946 Constitution, the municipal mobilization through the Brazilian Association of Municipalities (ABM) gained visibility, which, at the II National Congress of Municipalities, in 1952, launched a manifesto addressed to the mayors and city councilors throughout the country, with a proposal to create a technical guidance agency, the Brazilian Institute of Municipal Administration (IBAM) (MELO, 1993). In response to the protagonism of the municipalities and demands for the urban modernization of Brazilian cities, training courses other than the traditional ones began to appear, provided by engineering and architecture courses. As an example, Melo (1993) cited the creation in 1952, of the Brazilian School of Public Administration (EBAP) at the Fundação Getúlio Vargas (FGV), which received the support of the US technical cooperation program, Ponto IV within the scope of the United States Agency for International Development (USAID).

As a counterpoint, Melo (1993) continued, the research institutions created by the Economy and Humanism Movement[13], led by the French Dominican priest Louis Joseph Lebret, was responsible for training researchers and political activists in the Catholic milieu[14]. The approximation of Lebret to politicians from the National Democratic Union made it possible to establish a support network for the ideas of Economics and Humanism. Lebret achieved in Brazil what he had not managed to achieve in France during the 1940s. His influence came through integrating the State apparatus, at a state level rather than a federal level, into teams formed by contact with the movement.

It may be observed, however, that the aspects analyzed by Melo (1993) were not isolated and were linked during this period, as demonstrated by Freitas in a chapter in this book, when analyzing the training of municipal technicians and autonomous professionals on the Methodology and Design Course of Municipal and Urban Development (CEMUAM), at IBAM.

PLANNING, INDUSTRY AND DEVELOPMENT

At the end of the Estado Novo, the activity of planning was expanded into other spheres of government, resulting from a combination of factors. The economic policies, initially formulated by Getúlio Vargas to sustain the country's industrialization cycle, were expanded and restructured during this new phase by taking on the issue of regional differences as a problem needing to be addressed by an agenda that associated planning and development with industrialization.

This trend corresponded to what Lafer (1972) denoted as a belief in the possibility of economic development in capitalist societies based on industrialization and which confers a central role onto the State, not only as a political agent, but also as an economic agent. An analysis of agreements, covenants and financial support signed by the Brazilian government during the period immediately after World War II enables the identification, albeit in a simplified manner, of new alignments both in foreign policy and in the scope of the federal government, which reveals the tensions in the international context of increasing political polarization.

In the political framework of multilateral relations, and as part of the political role assumed by the United States within the context of the Cold War, economic missions established diagnoses and recommendations that aimed to signpost the obstacles to development between regions. As Lafer (1972) observed, initial attempts at planning the economic system were only reports, such as the Simonsen Report (1944-1945), or diagnostics, such as those by the Cooke (1942-1943) and Abinck (1948) missions. Studies by the Brazil-USA Joint Commission, which operated between 1951 and 1953, were more ambitious and reveal the progressive cooperation between the two countries. The intention was to create conditions to attract public and private, national and foreign investments to the electric energy and transportation sectors, considered strategic for the economic development of Brazil.

The "Goals Plan", formulated and put into practice under Juscelino Kubitschek's government, is of a different nature when compared to the studies and reports of the previous period, both because of the complexity with which it was formulated and the impact it had in political and economic terms. It was the first plan to link private initiative with the State, which substantially increased its participation in investments. It was also the first to undertake a formal monitoring of the established goals, through a Development Council created in 1956.

Two concepts formulated by the Brazil-USA Joint Commission were taken up in the Goals Plan: the choke point and the germination point. In the Plan, the first concept not only reaffirmed the commission's conclusions in identifying sectors that constituted barriers to economic development, but also expanded economic policies in the sense of creating a more complex,

linked production and support chain for industry. The concept of the germination point, as opposed to that of choke, identified new potentialities, such as that called the goal synthesis - the construction of the new capital, Brasília, which was not initially part of the Plan. According to Lafer (1972), this goal, by proposing to construct highways integrating connections with the new capital, enabled the interior of the country to become developed[15]. According to Ribeiro and Piquet (2008), a worsening of regional inequalities was attributed to the results of the economic policies of the Goals Plan based on income-concentrating mechanisms - not only by social strata but also by regions - and which tended to benefit the Rio-São Paulo axis.

During this period, two distinct agendas were formulated: a planning concept aimed at focusing on regional inequalities and the link between a housing policy and an urban policy.

URBAN AND HOUSING POLICIES: THE SLOW INSTITUTIONAL CONSTRUCTION

A number of scholars have observed that the generalization of the urbanization process in Brazil, starting in the 1950s, when industrialization in cities became the center of the productive apparatus, was accompanied by a deepening of regional inequalities. An article by Francisco de Oliveira, published in 1982 by the journal Espaço e Debates, proposed a different interpretation for what was qualified as the urbanization process without industrialization, and the consequent swelling of cities. It was what he called the "autarchization of cities" (OLIVEIRA, 1982), in which industrialization needed to be entirely urban, without counting the previous existence of a network of productive units, and required a complex social division of labor within each industrial unit, resulting in urbanization rates far beyond those that would be required to fill jobs. A study by Paul Singer (1968) on economic development, viewed from the angle of the formation and growth of five Brazilian cities, corroborates Francisco de Oliveira's thesis. The research covered a wide temporal arc beginning in the colonial period until the 1960s, when this process of urban growth became widespread across the country. A description of the attributes of the selected cities reveals the role of each during the research period and the importance attributed to the potential of economic development:

São Paulo, one of the two industrial metropolises in the country; Blumenau, representative of one of the economies of peasant origin in the South; Porto Alegre, the economy of which reflected the contradictions between the peasant structure in the north of Rio Grande and the landowning structure in the south; Belo Horizonte, a city built with deliberation and a certain amount of planning and with an economy that mirrored the agro-mining virtualities of central-eastern Brazil; Recife, the capital of the Northeast, a repository of both its problems and potential (SINGER, 1968, p. 17). The research highlighted the worsening of regional inequalities that took shape after the Second World War.

The formulation of an economic policy to deal with the issue of development in the immediate post-war period mobilized intellectuals, politicians and professionals from Latin America countries[16]. The belief in planning was linked to the perception that it would be possible to

avoid following the same path as the more advanced countries in which the development of urbanization had taken place in an undesirable manner, regulated only by the spontaneous forces of the market. In developing countries, on the other hand, "intelligent, cautious planning" could avoid the costs that developed countries had been discovering since the post-war period. The expectations could be summarized, as Gorelik (2005, p. 6) noted, to "merely reveal the problems and formulate questions, train the technicians and study the appropriate answers, to situate on this solid basis - scientific - the plans with which governments hoped to act".

The deterioration of urban conditions and the housing crisis as a phenomenon that occurred similarly throughout the countries of Latin America mobilized intellectuals, urban planners and municipal technicians. In order to understand the significance of the simultaneity of the processes as a demographic, social and political problem, educational and research institutions along with forums for reflection and analysis were formed, with the virtuality to address an expanded reality. This involved forming a network of professionals and institutions to respond to certain expectations or, more promisingly, to formulate a new agenda so as to focus on transforming the problematic situations that were occurring within cities.

With the support of the OAS, two institutions based in Latin America countries stimulated the circulation of professionals and the organization of inter-American networks. These were the Centro Interamericano de Vivienda y Planeamiento (CINVA), created in 1951 at the Universidad Nacional de Bogotá, and the Sociedad Interamericana de Planificación (SIAP), created in 1956. CINVA brought together teaching, research and an exchange of professionals for developing the area of planning and housing assistance. It was responsible for addressing the issue of social housing in Latin America and for a postgraduate course on the subject (RESTREPO, 2003).

SIAP activities focused on topics related to planning and development. Congresses were held every two years in a Latin American city, and were important forums for debating topics of special interest in the urban and regional fields. As Gomes (2009, p. 8) observed, it was an important counterpoint "between what was disclosed about South American production in Europe and the USA, and what was actually discussed by local professionals in forums, congresses and journals, on the South American continent".

In 1961, a technical mission from SIAP [17] visited 54 centers in South American countries[18]. The report of this mission, "La enseñanza de la planificación en América Latina" (SIAP, 1961 apud BIRKHOLZ, 1967, p. 83), outlined a picture of growing specialization in planning aimed at architects, engineers, agronomists, economists, sociologists. In addition to post-graduate courses, they reported research and advisory activities for municipalities in the preparation of master plans.

In the professional context, aimed at technicians and municipal employees from Latin and Central American countries, the Seminario de Técnicos y Funcionarios en Planeamiento Urbano was held in Bogotá in 1958. The topics addressed reflected the issues faced by cities due to precarious housing conditions and an absence of public services. The conclusions of the seminar were gathered in a document signed by representatives from Latin and Central America, called "Carta de Los Andes", addressed to "A los pueblos de América".

It may be observed that, from the 1940s, an institutional framework for formulating urban and housing policies at a federal level began to be created in parallel, but showing signs that they were linked, thereby signaling an understanding for the need of a complementary approach.

Amongst the initiatives, we highlight the Primeiro Congresso Brasileiro de Urbanismo held at the Centro Carioca in Rio de Janeiro, from January 20 to 27, 1941, which shows the expansion of the forum of interested parties on issues related to urbanism in public departments as well as in civil society.

But it was during the brief government of President Jânio Quadros, in 1961, that the institutional framework began to be structured, and two institutions of very different natures were created: the National Service for Municipal Assistance (SENAM) and the National Planning Council for Popular Housing[19]. SENAM, as an advisory and consultancy sector on various topics of interest to the municipalities, established administrative contacts between the municipal authorities and departments of the federal executive branch.

Also, during the government of Jânio Quadros, a bill was drafted to create a Brazilian Housing Institute, with attributions that included the conduct of housing policy and leadership in urban matters. Its actions included both the financing and execution of urban works and regional development, as well as real estate investments linked to housing plans.

THE CONTRADICTIONS BETWEEN A PROGRESS PROJECT AND A NEW SOCIAL ORDER

A series of events marked the period, beginning with the suicide of Getúlio Vargas, followed by an attempt by Marshal Lott to take over the presidency. Juscelino Kubistchek's government was relatively calm, but the new election in 1960, because of electoral rules that allowed independent and often opposing political factions, opened up the opportunity for new conflicts, both at a federal level, between Jânio Quadros and João Goulart, as well as across the states.

After Janio's resignation and the period of parliamentarianism was turned back, Jango assumed the presidency of the republic in a context of international political polarization and strong turbulence at home.

It was within this context of political forces being radicalized (the Cold War, US aid to Latin American countries and the Cuban Revolution) and the strengthening of conceptions of planning, democracy and social justice by more progressive segments, that João Goulart proposed basic reforms as a government plan.

Resonating this reformist climate, the SHRu (Seminário de Habitação e Reforma Urbana: o homem, sua casa, sua cidade)[20], in the second half of July 1963, in Rio de Janeiro and São Paulo, brought together representatives from government agencies, private and professional entities - mostly architects, sociologists, engineers, social workers, and journalists. It was promoted by the Instituto de Previdência e Assistência dos Servidores do Estado (IPASE) and the IAB regional departments of São Paulo and Rio de Janeiro.

More detailed analyzes of the conclusions of SHRu demonstrate the importance of the event as a new level of possible convergences. Amongst the documents delivered to the participants[21], in addition to the rules and conclusions of the working groups, there were also others, diverse in theme and provenance, but which, due to their unofficial character, provided an indication of the diversity of positions of the seminar participants.

Although with popular resonance, the housing issue lost priority to land reform during the presidential period of João Goulart.

POLITICAL CENTRALIZATION AND URBAN PLANNING AFTER THE 1964 CIVIL-MILITARY COUP

In 1964, the military coup that ousted President João Goulart became radicalized in the short space of five years. The publication of the five institutional acts, between 1964 and 1969, defined the dissolution of congress, the elimination of political parties and the imposition of indirect elections. They deprived civil and political rights by withdrawing the right to habeas corpus and approved the death penalty for a political crime of terrorism.

At the same time as the political rupture and the expulsion of professionals, politicians, technicians and intellectuals, prohibited from staying and taking part in the activities of the country, cracks in the process were gradually becoming apparent. These were manifested both in the permanence of previous forms of political and technical actions and in the emergence of forms of resistance that would gradually create tension and break the system.

The deposition of Jango Goulart radically interrupted the promising but conflicting process of formulating urban public policies supported by a new institutional framework that presented the potential for social transformation. Several political positions quickly emerged that had already been taking shape, albeit in an embryonic manner, during the previous period. Five months after the coup, under Law no. 4,380, in 1964, BNH and SERFHAU[22] were created.

THE CRISIS OF URBAN PLANNING: SIGNS OF TRANSFORMATION

During the periods of authoritarian government, three processes - expansion of the professional field, expansion of the area of urban planning and the links between planning and State action - took place in an increasingly intense manner due to the political centralization, the expansion of the structure and the absence of instances of political representation and manifestation. The combination and intensification of these processes is one of the explanations for the acute ideological crisis of planning that took place during the 1970s, as well as for containing the signs of its transformation.

Is it possible to consider that continuities, contradictions and ruptures occurred on all sides during this period? And therefore, is it possible to consider the two authoritarian periods as being continuous, only interrupted by a brief democratic period, when ideals of political, social and urban reform erupted in proposals that were still embryonic?

Or conversely: it is possible to perceive continuities and advances between democratic periods and interruptions - and even ruptures - in a more fierce and forceful manner due to the

rise of authoritarian movements and the 1964 military-civil coup. Thus, if we were to examine this from a political viewpoint, the intensification of differences and contradictions, the restrictions on individual freedoms with imprisonment, exiles, premature retirements and the increasingly frequent use of various forms of violence such as arrests and torture, often resulting in deaths, may indicate that the conquests and advances in the democratic period were greater and therefore led conservative sectors to take increasingly harsher, more overpowering measures during the authoritarian period.

This is our hypothesis, stating that it is precisely this dialectical development that has enabled us to perceive these periods each as a separate unit, in continuities, contradictions and ruptures.

ENDNOTES

1. Urbanism plans and projects are briefly described in the source guide published in Urbanismo no Brasil 1895-1965 (Coord) Maria Cristina da Silva Leme, São Paulo Ed Nobel FUPAM, 1999.
2. Article 28, letter i, regulated the design, direction and inspection of urban planning services for engineering graduates and Article 30, letter c, for architectural engineering and architecture graduates.
3. Decree-Law no. 8620, in 1946. Regulates the professions of engineer, architect and surveyor, governed by Decree no. 23,569 / 1933.
4. Atique refers to the second meeting, when the problem of housing and buildings, in general, and of proletarian and economic houses, in particular, was included as an issue specific to American cities.
5. This and all other citations hereafter have been translated from Portuguese by the author.
6. This movement, started in the 1920s, took on a new format in 1936, with the creation of the first Brazilian Institute of Architects (IAB). In 1943 the IAB Regional Departments of Minas Gerais and São Paulo were created.
7. For a detailed description of this process, see Sylvia Fischer (2005).
8. This course did not materialise. Only the Urbanism course remained in the fourth and fifth years of the Architecture course. The teaching reform in 1962 changed the name of Urbanism to Planning I and Planning II, parts 1 and 2, for third, fourth and fifth-year students, according to Birkholz (1967 p. 218-259).
9. Birkholz presented a circumspect survey and described the two degree courses in architecture and postgraduate studies in urban planning. In the UK and the US, training took place through graduate school, while in Latin American countries such as Panama, Mexico, Peru, Chile, Uruguay and Argentina, training in urbanism was part of the curriculum on the Architecture course (BIRKHOLZ, 1967).
10. The first class of the course received the degree on December 12, 1951, with fourteen urban planners graduating (as described by Lima in a chapter in this book).
11. Law no. 3233, in 1955, defined the regulations of the Faculty of Architecture and Urbanism, at the Universidade de São Paulo, which had been created in 1948 by Law no. 104.
12. Article 6 of Law no. 3233/55 defined the objectives of CPEU.
13. See Leme (2001) on the importance of the Economy and Humanism Movement and the actions of Lebret in politicizing urbanism in Brazil.
14. The Centre Economie et Humanisme was formed by Lebret on September 24, 1941, in France. In 1947, he came to Brazil with the aim of creating a center for researchers to study and train.
15. Jorge Henrique Hardoy (1972 apud GORELIK, 2005, p. 6) noted that some policies implemented during this period demonstrated a new Latin America, which detached itself and expanded its old frontiers and sought the expression of its modernization in the ideas of integration - which enabled the inclusion of policies from the Goals Plan in a broader aspect of changes in Latin American countries.
16. The creation of the United Nations (UN) in 1945 and the Organization of American States (OAS) in 1948 enabled new political action in Latin America. Within this political framework of multilateral relations, the Economic Commission for Latin America and the Caribbean (ECLAC), as a UN body for Latin America, proposed studies, plans, seminars and encouraged economic cooperation amongst its members. One of the theses supported by ECLAC was to defend industrialization as a way of overcoming the underdevelopment of countries.
17. The commission was formed by Cesar Garcéz V., José Vera L., Humberto J. Spinoza with Rafael Picó, John B. Brandford and Francis Violich acting as advisors (BIRKHOLZ, 1966, p. 81).

18. Birkholz (1967) highlighted the presence of planning institutions in the main cities
19. The conditions for building urban and housing policies are analyzed in the chapters by Farias and Feldman in this book.
20. The Housing and Urban Reform Seminar: man, his home, his city.
21. A set of various documents from the Seminar on Housing and Urban Reform, FAUUSP Archive.
22. The National Housing Bank and the Federal Service for Housing and Urbanism.

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Experiences in participatory management and planning in intermediate scales
Comparative analysis in the Southern Cone, 1990-1980

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Abstract

The re-democratization in Southern Cone countries, in the 1980s, was a great experimentation time, driven by a desire to deepen and enlarge democratic practices, and materialized by a decentralizing, participatory and anti-bureaucratic aspiration. This process developed a popular participatory mechanism at the intra-urban level, introduced into a movement that supported and exceeds municipalism, being characterized by a local scale method and urban participative management bet. Therefore, the experiments of participatory democracy at the local scale are one of the most important non-hegemonic exponents. They search, by decentralization at decision-making instances, alternatives to participatory and representative issues, as abstentionism increased and distance between electors and their representatives — promoting new democratic drawings in this process. This paper analyses comparative experiences in Brazil, Argentina and Uruguay — countries where popular participation was fomented and legitimized by the local scale. Besides, it tries to build a perspective of different political drawings occasioned by urban planning and management at a local level in Southern Cone re-democratizations, and whose beginning and conception precedes ONU good practices seal to Participatory Budgeting in 1996. In general, the southern cone popular participatory experiences are very diverse. It was noted that all Argentine (Córdoba, Rosario and Buenos Aires) and Uruguayan (Montevideo) studies experiments necessary pass thrown an equipment of municipal services decentralization, may he be central or not in participatory drawing – this equipment are known as Centros Comunales. This scenario contrast with Brazilian analyzed cases (Porto Alegre, Recife and Belo Horizonte), wherein the creation of decentralized municipal equipment is an exception. In other side, contributes to this major difference between ways to promote local scale democracy in Brazil and platinum countries the architect's involvement in decentralized drawing debate – stronger in Argentina and Uruguay. In the first re-democratization years is not observed in Argentina any development of local level representative mechanism. Therefore, effective popular participation was accomplished without intra-urban territorialization, through direct democracy mechanism articulated with

Strategic Planning. Differently, the Uruguayan Descentralización Participativa used this decentralized municipal equipment as a support of popular acting – at the Planes Quinenales (five-years plan), and also in the local management of territories. Compared to the others experiments, Uruguayan case has the most diverse participatory drawing, with more diversity of popular acting in urban planning and management. Brazilian participatory democracy is profoundly based on resources co-management, athwart experiences of Participatory Budgeting, restricting to this usually. Thereby, it's important to note that the principal divergence between Montevideo experience and the Brazilian Participatory Budgeting is situated on decentralization by municipal equipment tendency – that allows the creation of a physical space relation in neighbors, encoring direct involvement.

Keywords

Participatory Democracy, Southern Cone, Re-democratization, Intra-urban Planning, Intra-Urban Management

How to cite

Letícia Faria and Gisela Souza, "Experiences in participatory management and planning in intermediate scales: Comparative analysis in the Southern Cone, 1990-1980". In Carola Hein (ed.), *International Planning History Society Proceedings*, 19th IPHS Conference, City-Space-Transformation, TU Delft, 5 - 6 July, 2022, TU Delft Open, 2022.