

DESIGN APPROACH TO URBAN SPACE TRANSFORMATION BASED ON OPEN SPACE TYPOLOGY

オープンスペース類型からの都市空間再編の計画デザイン論

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要旨

社会・産業の構造的変化と都市空間の変容が同時に進むときに、ドイツや日本などの脱産業化が進む地域においては、持続可能な開発が求められている。このとき、オープンスペースは、地域や広域の生活環境をより豊かにしていくための要になる。人口減少などによる地域の縮退を前提としつつ環境再生を実現するには、開発管理や計画調整においてオープンスペースの機能を積極的に活かしていく必要がある。

近年の研究やケーススタディにもとづき、都市の空間変容におけるオープンスペースの質とは何かを議論するワークショップを行い、デザインとプランニングの観点からオープンスペースの可能性を検討し、新たな研究の枠組みを構築することをめざした。

ワークショップでの議論を通じて、オープンスペースからの計画デザイン論を展開するために、以下の3つの論点を見いだした：

- 1) 地域性 (Eigenart)、自然や生き物との共生システムの持続、相互包括性 (Inclusion) が、オープンスペースの質をとらえるときの分析・評価の軸となりうること。
- 2) 動的な都市変容の過程におけるオープンスペースの多機能性。
- 3) 計画デザインにおける2つのスケール (身近な地域空間と広域性) の相互作用。

Summary

In the process of the spatial transformation and structural change due to social and industrial alteration, the sustainable developments is commonly required in both post-industrial regions of Germany and Japan. In this context, open space becomes one of the keystones of the common interests to enhance both local and regional living quality, and thus should be given more positive functions to manage the development for the smart shrinking with environmental regeneration.

The discussion on the concept of open space quality in the urban spatial transformation process was executed in order to find the effective design and planning approach to the qualification of the open space based on the recent researches and case studies in the different scale, and to develop the research framework.

Through the discussion in the workshop, following topics arose; 1) three criteria for open space qualification ; Eigenart, Sustaining of the natural life-support systems and Inclusion, 2) multi-functional aspect of open space in the dynamic process of urban transformation, 3) tow scale (regional and local) interaction in planning and design.

1. Introduction

Urban developments of the 20th century aimed at accommodating the economic growth and were expected to bring about better-off settings to all the people. The excessive urban expansion, which arose from the rapid growth, resulted in the environmental deterioration and the loss of natural landscapes in many regions. Open space was considered as the controlling factor to limit developments and as a potential space for further developments at the same time.

At the beginning of the 21st century, however, sustainable development is required to react on the changing social and industrial circumstances under the condition of the depopulation and stagnating economy, coping with the global environmental issues. Such trends are mostly common in both post-industrial regions in Germany and Japan. Developments of today in those countries are expected to stimulate the new economy in the process of the urban restructuring and spatial transformation, and the improvement of the life quality and the energy efficiency are also expected at the same time.

In this context, open space becomes focused as one of the keystones in the planning approach to enhance the living quality in both local and regional scales. The open space should be more conceptualized along with the strategic settlement re-design. Open space has been perceived as the basic spatial component, and it should be given more positive functions to manage the urban regeneration in the smart shrinking process. Within the growing urban poles, the qualification of open space plays a significant role in maintaining the urban space livable and at the same time competitive.

Thus the discussion on the concept of open space quality in the urban spatial transformation process was executed in order to find the effective approach to the qualification of the open space.

2. Open Space Workshop

Open Space Workshop was held on 5th and 6th of September in 2016 at Department of Urban Design & Land Use Planning, TU Dortmund University. After the presentations of 5 case studies under the theme of “Open Space Quality and Design Framework of the Current Approach to the Spatial Transformation”, the multi-disciplinary discussion was followed to develop the research framework.

The presenters, co-researchers of this theme, are:

- 1) Prominski, Martin; the professor and landscape architect of Faculty of Architecture and Landscape Sciences, Leibniz University Hannover
- 2) Reicher, Christa; the professor and urban planner of Faculty of Spatial Planning, TU Dortmund University
- 3) Polívka, Jan; the associate professor of TU Dortmund University
- 4) Koura, Hisako; the professor and urban planner of Kobe Design University
- 5) Nagano, Maki; assistant professor and architect of Kobe Design University.

Besides those presenters above, Nakamura, Masashi, landscape architect in Koln and the doctoral course students in TU Dortmund University participated in the discussion.

The spatial scale in the presentations ranges from the architectural to urban space including the regional concept.



Fig. 1 Workshop at TU Dortmund

3. Workshop presentations

The perspective of concept, role, function, strategy and qualification of the open space were discussed from the various viewpoints based on the field researches and the concrete cases. Following summaries of the presentations were the ground of discussion.

3.1 “The arrangement of the buildings and spatial structure for Traditional Villages of East Asia”

Maki Nagano: KDU

In the archipelagos of East Asia, there are many islands of the national or regional focal points. Integral living spaces are formed in this particular settings surrounded by the sea. The unique spatial structures are created with the culture of the East Asia (isolated islands) and the diversity of the open space in living spaces suggests its high potential of affordability.

In the Ho-lo-ke settlements of Taiwan, the tradition of a single lineage living together in a compound has been handed down, and the daily life is formed in the individual compound. The streets and squares in the village play an important role of connecting people. Hakka settlements can be characterized depending on topographical land use and the neighboring families. The specific relations of the living activities, production areas and streets connections explain the character of the open space in the settlement.

Open spaces in the settlement of the research fields shows the affordability of the place related with living culture and layout of streets and with the family units.

3.2 “Role of the open space for sustainable urban transformation”

Martin Prominski: Leibniz University Hannover

In the 2016 report of the German Advisory Council on Global Change (WBGU)¹⁾ proposed three normative dimensions for a sustainable transformation of urban

areas: 1)Eigenart (Locality, Character), 2)Inclusion and 3)Sustaining of natural life-support systems. Regarding to these three qualities of human settlements, open space plays a crucial role. The design possibilities to achieve these three qualities were discussed in three researches achieved by Department of Open Space Planning and Design at Leibniz University Hannover.

The critical dimension of “Eigenart” emerged in the process of preserving and developing locality and identity in large-scale (regional) urbanization processes, and the landscape functioned as topography and also as infrastructure is significant regarding “Eigenart”. The multifunctional urban spaces proposed in “Designing Urban Nature” is the ground of “Sustaining of natural life-support systems”. Landscape Choreography, the workshop project at the urban fringe, touches on the concept of “Inclusion”.

The design attempt in those projects emphasizes the overarching importance of multi-coded approaches to the open space quality in regard to a sustainable urban transformation.

3.3 “Open space concept as development management tool for the urban transformation”

Hisako Koura: KDU

We are facing the urgent necessity to develop the planning tool and spatial guideline to cope with the developments with little consideration to the locality. Open space, including urban vacant space and variable fringe, should be conceptualized in spatial planning to achieve the local sustainability.

Under the condition of decreasing the land use intensity in the depopulation and post industrialization, landscape policy, which relate to disaster prevention, local ecosystem and quality of life, will take the critical role in the urban transformation. In Kobe, the importance of the landscape as urban infrastructure

has been discussed after the earthquake of 1995. The landscape policy that integrates urban land use zoning and rural nature conservation was stated in the current master plan of urban planning. This city-scale concept, however, has not been yet well interpreted to the urban-scale or community-scale planning and design.

It is necessary to appraise the local development design in the regional context to manage the urban and community scale transformation, which is lacking in planning implementation in Japan.

3.4 “Open space concepts, strategies and projects as formats of regional transformation”

Jan Polívka: TU Dortmund University

In the research project on Urbanism of the Ruhr in International Comparison (2013-14), following fields are proved valid: 1) Land Use Management (changing processes through regional and local plans), 2) Strategic Cooperation (local governance processes and strategic region-building projects), and 3) 'Urbanism' (spatial design, regional identity and heritage). Especially in polycentric regions, open space plays a significant role as both a local borderland and a common space of regional settlement negotiation. The open space can be a negotiable space and for a projective object of transformation.

In the recent years, especially regional formats of the region building, including as IBA Emscher Park, the Emscher River Redevelopment Projects are conceptualizing the regional space as negotiation arena for common development space and values. Therefore, we address the development and management of regional open space and landscape concepts and projects as a base for regional cooperation, with the focus on those main topics: 1) Governance and Planning Concepts of Landscape Management, 2) Infrastructure Management for Regional Efficiency and Settlement

Safety, and 3) Cultural Landscape as the Regional Identity and Preservation.

3.5 “Tow-Scale Urbanism: Qualification strategy of urban fringe”

Christa Reicher: TU Dortmund University

Three of the theoretic approaches; 1) Intervention logic (Kunzmann), 2) Topologies of fringe (Sieverts)²⁾ and 3) Continuing landscape (Gamble), and two of the planning approaches; 1) Landscape as the space-time continuation and 2) Qualification strategy, are being discussed to understand open space in the context of multi-scale-urbanism.

Intervention logic explains the multi-functional urbanism as the process of that the single projects are networked to gain the regional coherence and then spreading out with their consolidation at the time. Sieverts' topology of the fringed is the new perspective to comprehend the urban space with fractal boundary between rural and urban. The concept of Continuing landscape is related to the discussion of the integrity and authenticity of industrial heritage, and thus it has inevitably accepted any evolution. These theoretic approaches suggest the dimension of urban dynamism.

Ideas of the planning approaches are gained from the practices in Ruhr region. The regional space character such as fragmentation of Ruhr is the case of space-time continuation, and thus the operational land should be reorganized based on the landscape coherence instead of the administrative border. In the process of transformation, a temporary identification landscape would be effective, and practically the regional guideline for development management including experimental zoning and monitoring is significant especially in the field of mobility and landscape. They qualify the localities, and connect those localities to develop the regional identity.

4. Discussions

Even though the research cases and planning attempts introduced in the workshop vary in scale and functions, three topics arose; 1) open space quality criteria, 2) multi-functional aspect of open space, 3) tow-scale interaction.

Referring to WBGU report of 2016, the normative values concept proposed by WBGU to improve and sustain the quality of life in both planned and informal settlements is made up of three elements; Eigenart, sustaining of the natural life-support systems and inclusion. As the open space is the basic component of the settlements, these three elements have high potential to be applied for the criteria of open space quality.

Open space has both positive and negative attributes. Abandoned vacant land in the process of the urban transformation is considered sometimes positive as the potential space to reduce urban density and sometimes negative due to deteriorating townscape and sanitary conditions in neighborhood. The role of open space is quite complex in terms of stakeholders and also in terms of the functional layers and their users. Redefining the open space as multi-functional context is significant and inevitable to set up the common ground of discussion for the open space quality with understanding its dynamism.

Gardens and greenery, waterway and drain in the sites is designed as the part of local system and at the same time they interact with regional system, but there often the gap emerged between local and lager scale planning. Once we understand open space as the multi scale interface space, the regional landscape strategy will work as the framework of the local development management. Open space could interface different categories of urban space, stakeholders, and scales such as local and regional. Urban transformation is the

dynamic process, and the open space would work as positive intervention and could interface of local and region based on its spatial potential.

5. Research perspective

When the potential of open space as the controlling factor in the urban transformation process is examined to develop the design concept, open space qualification such as multi-functional, multi-scale interaction ability and WBGU values of the quality of life could be the ground of the discussion.

To develop the open qualification, the following research perspective come out; 1) tow-scale (local and regional) approach to open space studies, 2) application of WBGU value concept to the open space quality analysis with case studies, 3) typologies grounded on static/dynamic aspect of open space. These are concretized in an ongoing process for an international comparative research agenda setting.

Reference:

- 1) WBGU “Humanity on the move: Unlocking the transformative power of cities”, 2016
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- 2) T. Sieverts, “Zwischenstadt”: トマス・ジーバーツ著、
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- 3) C. Reicher et,al, “Schichten einer Region”, jovis, 2011