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Front Pages

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Athens Journal of Architecture - Volume 7, Issue 3, July 2021 – Pages 335-354

Built Environment and Landscape Design as Tools for Climate Resilient Cities and Regions

By Anastasia Nikologianni[*], Peter J. Larkham[±] & Kathryn Moore[‡]

This paper explores project frameworks and design methods in order to reveal innovative ways and processes for creating more resilient cities and regions. Considering major environmental, economic and social challenges and extracting key quality elements from pioneer development schemes, the aim is to identify methods and policies that have a significant impact on the transformation, landscape quality and sustainability of places at city and regional scale. Starting with the model of design quality in project delivery, and looking at a transformation model, the paper discusses best practices for the development of concept and implementation before it considers the model of pan-European collaboration. An investigation of climate adaptation issues through the 'Room for the River', a national programme in the Netherlands, demonstrates the significance of landscape design, low carbon and spatial quality as vital aspects of the built environment. The West Midlands National Park (WMNP UK), a major infrastructure proposal, demonstrates how a broader vision can help drive environmental, social and economic transformation in a region, whilst SATURN, an EIT Climate-KIC project, reveals the first stages of a pan-European city collaboration with the aim of reintegrating the natural assets within the climate change impact strategies of the participating cities, and exchanging knowledge between European regions. This paper suggests that landscape design and the built environment are important drivers towards a successful low carbon transition, and they can simultaneously enhance social and landscape identity and boost the economy of a region.

Introduction

This paper explores three large-scale models that have demonstrated ways in which principles leading to low carbon and resilient cities have been embedded. It is based on a broader piece of research that has examined several pioneer landscape-led projects across Europe, through the lenses of climate emergency and landscape quality. The models discussed here have demonstrated best practices and new methodologies in relation to strategic design and environmental resilience. They were selected to represent three key steps in the delivery of a sustainable infrastructure development; the establishment of a vision (design quality), the transformation of views and opinions (of the landscape legacy) and the importance of systemic change in cities and regions through open collaboration and exchange of knowledge.

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The scale of climate change and its impact on our cities and regions is now widely recognizable, however it is only recently that it has been termed the 'climate emergency'. The 'resilient city' is a broad but often controversial term, since resilience can be interpreted in so many ways. In the larger spatial context, it is often challenging to identify the true environmental or most sustainable steps that will support carbon neutral communities.

Built environment or landscape design are not new concepts, however the concepts of a carbon neutral development, or sustainable cities, through innovative design are fast developing and becoming adopted. The use of multidisciplinary teams and collaborative projects with the aim to enhance resilience, re-imagine landscape identity and boost social and economic benefits seems to be a beneficial option to future-proof our cities. This paper agrees with Nijhuis and Jauslin,[1] that contemporary societal challenges including rapid urbanisation, an ecological crisis and climate emergency demand fundamental review of the planning and design of our landscapes at urban and regional scales. It is important that built environment and landscape infrastructure are integrated in order to allow, as Nijhuis and Jauslin suggest, "design principles to gain operative force in territorial transformation processes."[2] The review proposed by their research aligns with the focus of this paper, that is to demonstrate how innovative planning and design models can aim to address climate extremes, and propose new ways of creating low carbon cities reinforced by the introduction of policy and decision-making methods throughout their processes. Landscape infrastructure and urban developments are the vehicles to re-establish the role of design as a means of integrating environmental principles in strategic schemes. It is through the models examined in this paper that such established concepts are dealt with in novel ways, facilitating transformation and innovative ideas.

This research introduces three models that have dealt with environmental challenges from different angles. The model used in the Room for the River project, (the Netherlands) demonstrates how design quality is integrated in the delivery of a large-scale strategy and the reasons why such elements are significant for the social and economic success of a climate-related development. The exploration of a transformation model using the West Midlands National Park proposal (UK) demonstrates ways in which a broader vision allows the creation of a holistic approach across the whole region and how this has impacted decision making for the area. The third model focuses on re-integrating natural assets within a range of European cities while changing their operational systems, and it also demonstrates the significance of pan-European collaboration with the aim of achieving more sustainable cities. This paper demonstrates that all three models are based on the principles of design and the built environment; however they have facilitated different ways of planning that have led to effective decision making and sustainable strategies. By extracting key effective methodologies tested in these models, the paper demonstrates that successful environmental approaches

1. S. Nijhuis, S. and D. Jauslin, "Urban Landscape Infrastructures. Designing Operative Landscape Structures for the Built Environment," *Research in Urbanism Series* 3, no. 1 (2015): 13-34.

2. Ibid.

require a sequence of key actions such as vision, design quality, transformation, decision making and systemic change, and that these have so far been achieved through multidisciplinarity and collaboration.

The Key Concepts

Until recently the disciplines of landscape architecture, engineering, built environment and others have generally been treated as individual and separate disciplines, with little connection or interrelationship within strategic projects. Promoting the pioneer ideas of Shannon and Smets, and Belanger, Nijhuis and Jauslin argue that change is necessary: "infrastructures no longer belong to the realm of single disciplines […], but to a crosscutting field that involves multiple disciplines in which the role of designers is essential."[3] Infrastructure has gradually become accepted as something that applies to more than one discipline and there is increasing recognition that each profession has something to offer in this collaborative era. It is also pointed out that infrastructure developments do not only apply to technical issues but they require multiple actors and the active participation of design disciplines.[4] However, there is still much more to do when it comes to climate resilience and the way in which infrastructure and the built environment can be part of a broader landscape approach that creates a sustainable vision for the whole city or region. Valdés et al. argue that "a resilient built environment is of paramount importance in achieving resilient cities,"[5] since the built environment is the glue between infrastructure, everyday life and human beings. Any disturbance to the built environment changes the social and economic characteristics, and it can therefore significantly affect human society. But what about destruction of the natural environment? We surely can admit, especially in a post-COVID-19 situation, that disturbances to the environment also significantly and adversely affect our health and wellbeing,[6] communities, businesses and economies; and therefore it is imperative to understand and apply the concepts of sustainability and resilience. Two decades ago, Leal Filho stated that sustainability was becoming one of the most-used terms in environmental and scientific disciplines, but the evolution of this concept was a challenge.[7] A decade later, there were indications that the concepts of low carbon and sustainability had been widely advocated, but the extent to which these ideas could be embedded in built

3. Ibid.

4. K. Shannon and M. Smets, *The Landscape of Contemporary Infrastructure* (NAi Uitgevers/ Publishers Stichting, 2010).

5. H. M. Valdés, D. Amaratunga and R. Haigh, "Making Cities Resilient: From Awareness to Implementation," *International Journal of Disaster Resilience in the Built Environment* 4, no. 1 (2013): 5-8.

6. F. Dutheil, J. S. Baker and V. Navel, "COVID-19 as a Factor Influencing Air Pollution?" *Environmental Pollution* 263, no. Pt A (2020): 114466.

7. W. Leal Filho, "Dealing with Misconceptions on the Concept of Sustainability," *International Journal of Sustainability in Higher Education* 1, no. 1 (2000): 9-19.

environment and planning had not been easy to define.[8] This paper recognizes that sustainability is a broad concept including economic elements and the future-proofing of cites, however in recent years this is used interchangeably with low/zero carbon and resilience.

Vale notes that "uneven resilience threatens the ability of cities as a whole to function economically, socially and politically."[9] The way in which our cities and regions are organized necessarily means that some parts are more resilient than others, and this reflects on underlying socio-economic disparities, topography and income amongst other factors. We could, therefore, argue that achieving a fully resilient city is a major and challenging task that requires a common framework between the different disciplines, and behavioural change in residents, professionals and politicians. It is based on this reasoning that Vale suggests that resilience is based on systemic strategies and the way these behave in different scales and social context.[10]

Valdés et al. argue that the concept of resilience is now widely adopted across academic and policy disciplines, and is often used in relation to disaster response;[11] but the methodology required to create a resilient city and how landscape design blends with infrastructure is only now beginning to be unpacked. As Vale suggests, there are multiple economic and social disparities within a city and, therefore, the goal for a whole city to become 'resilient' is almost always over-simplistic.[12] The creation of the Sustainable Development Goals (SGDs) and their integration in the concept of resilience in cities and communities demonstrates the importance of tackling such issues from different angles, and that in order to strengthen resilience in our society, climatic extremes must be tackled in relation to economic and social challenges.[13] Even though environmental challenges are experienced differently within an urban environment, there are signs that landscape design is able to create holistic visions[14] for the current and future urban and rural infrastructure that can respond to these challenges and support better integrated environmental designs on a strategic. The collaboration of the built environment and landscape design disciplines does not eliminate the various disparities of a major city, but can build pathways that will allow these inequalities to be revealed, understood and addressed in the transition to a sustainable and resilient future.

Infrastructural Design and the Landscape as Environmental Assets

8. H. Yuan, P. Zhou and D. Zhou, "What is Low-Carbon Development? A Conceptual Analysis," *Energy Procedia* 5 (2011): 1706-1712.

9. L. J. Vale, "The Politics of Resilient Cities: Whose Resilience and Whose City?" *Building Research & Information* 42, no. 2 (2014): 191-201.

10. Ibid.

11. Valdés, Amaratunga and Haigh, "Making Cities Resilient: From Awareness to Implementation," 2013.

12. Vale, "The Politics of Resilient Cities: Whose Resilience and Whose City?" 2014.

13. D. Acuti, M. Bellucci and G. Manetti, "Company Disclosures Concerning the Resilience of Cities from the Sustainable Development Goals (SDGs) Perspective," *Cities* 99 (2020): 102608.

14. D. Sijmons, Y. Feddes, E. Luiten, F. Feddes, M. Nolden and J. Bosch, *Room for the River; Safe and Attractive Landscapes* (The Netherlands: Blauwdruk, 2017).

Infrastructure design has begun to be acknowledged in relation to urbanization, however the severe climatic phenomena (droughts, flash flooding, high temperatures) experienced in recent years are signs that the climate emergency will have serious adverse impacts on our cities and regions. The impacts of 1.5^{o}C global warming, mentioned by the latest Intergovernmental Panel and Climate Change report, are likely to replace land use change as the major driver of ecosystem change in the coming years.[15] Guerreiro et al. state that since over 75% of the population of the EU currently live in urban areas, as a result of the agglomeration of people, wider services and infrastructure, cities are particularly vulnerable to environmental phenomena.[16] Examining the impact of the climate crisis at a global scale often puts an artificial distance between the phenomena themselves and their immediate effects on our cities, communities and economies. However, it is important to acknowledge that responding appropriately to the pressure put on our cities requires significant effort from everyone, and that local and national governments must develop and apply coherent adaptation as well as mitigation plans.

In evaluating what the built environment and landscape design disciplines can do to address some of these challenges we should recall Gossop's explanation that "the world's ability to absorb carbon is being steadily reduced through massive tree felling and other land use changes"[17] and consider how strategic plans can review and change our current practices. Over recent years local governments and national policy have begun to adapt to the climate challenges, and there are cases where policy reports urge actors "to maintain and improve the natural environment"[18] as Hardman et al. explain regarding the UK's National Planning Policy Framework (NPPF) and Natural Environment White Paper (NEWP). However, there is still no coherent process as to how infrastructural design can improve environmental challenges in cities and, furthermore, how our cities can become more resilient and sustainable future conurbations through built environment and design approaches.

Conceiving of infrastructure as landscape or vice versa is not new: from the second half of the eighteenth century infrastructure was regarded an integral part of the landscape by landscape designers."[19] However, much remains to be discussed when it comes to ecology, sustainability and the urban environment.

15. Intergovernmental Panel on Climate Change (IPCC), *Global Warming of 1.5°C.* Special Report on the Impacts of Global Warming of 1.5°C above Pre-Industrial Levels and Related Global Greenhouse Gas Emission Pathways, in the Context of Strengthening the Global Response to the Threat of Climate Change, Sustainable Development, and Efforts to Eradicate Poverty (eds.) V. Masson-Delmotte, P. Zhai, H.-O. Pörtner, D. Roberts, J. Skea, P. R. Shukla et al. 2018.

16. B. S. Guerreiro, J. R. Dawson, C. Kilsby, E. Lewis and A. Ford, "Future Heat-Waves, Droughts and Floods in 571 European Cities," *Environmental Research Letters* 13, no. 3 (2018): 034009.

17. C. Gossop, "Low Carbon Cities: An Introduction to the Special Issue," *Cities* 28 no. 6 (2011): 495-497.

18. M. Hardman, L. Chipungu, H. Magidimisha, P. J. Larkham, A. J. Scott and R. P. Armitage, "Guerrilla Gardening and Green Activism: Rethinking the Informal Urban Growing Movement," *Landscape and Urban Planning* 170 (2018): 6-14.

19. Nijhuis and Jauslin, "Urban landscape infrastructures. Designing operative landscape structures for the built environment," 2015.

Cadenasso and Pickett state that even though progress had been maintained over the previous decade between the ideas of sustainable city design and urban ecology and that several frameworks had been developed, there was no 'mature theory' on what urban ecology stands for,[20] but perhaps key principles were beginning to emerge. Examining similar ideas and investigating the concept of urban resilience, Vale argues that it is the nature of the design and planning processes developed to make our communities energy efficient, environmentally sensitive, physically and socially attractive and adaptable to climate change, that will strengthen our cities and improve the quality of life for their residents.[21] Even though this is not an easy form of resilience, it seems to be significant amongst the few options we have to address this global crisis. Jenks and Jones also agree that sustainability can be expressed in different forms and many of these have been systematically tested.[22] Although evidence as to how to develop sustainable urban forms remains rather inconclusive, it is clear that there is a growing interest and engagement in support of a more collaborative approach from the professionals (designers, landscape architects, planners) and the public.

It is now apparent that we have been ignoring nature with regards to the built environment, and that this has resulted in several challenges, of increasing severity, for our communities, economies and our wellbeing. As Nijhuis et al. remark "infrastructure over the last centuries was in service of the conquest of nature, whereby the environment was denied its natural dynamism in favour of more controlled and static systems."[23] Therefore, it is time to use the significance of the built environment and the visioning power of landscape architecture to establish that resilient cities need to support a broader sustainable vision while building with nature and not against it. Even though we are still exploring the best possible ways in which environmental frameworks can be applied to urban areas, there is no doubt that the lack of open space is likely to have negative impacts on biodiversity and ecosystem services for our cities and regions.[24]

Methodology

This paper explores innovative models that have identified principles and processes to support environmental development in conurbations. Focusing on the successful delivery of sustainable infrastructure developments, this paper has developed a theoretical framework based on key and necessary steps to achieve environmental stability and resilience in cities and regions. The models identify three major concepts that need to be addressed if we are to achieve resilient cities.

20. M. L. Cadenasso and S. T. Pickett, "Urban Principles for Ecological Landscape Design and Maintenance: Scientific Fundamentals," *Cities and the Environment (CATE)* 1, no. 2 (2008): 4.

21. Vale, "The Politics of Resilient Cities: Whose Resilience and Whose City?" 2014.

22. M. Jenks and C. Jones, *Dimensions of the Sustainable City* (Springer Science & Business Media, 2009).

23. S. Nijhuis, D. Jauslin and C. De Vries, *Flowscapes: Infrastructure as Landscape, Landscape as Infrastructure. Graduation Lab Landscape Architecture 2012/2013* (Delft: Delft University of Technology, 2012).

24. Jenks and Jones, *Dimensions of the Sustainable City*, 2009.

The model of 'Design Quality and Implementation' indicates the importance of a holistic approach when it comes to landscape planning and environmental challenges. The 'Transformation' model demonstrates how perceptions are being changed using design methods to achieve a holistic vision and improve the landscape identity of a region. The third model -'Pan-European Systemic Change'- links to a major part of strategic schemes; policy and systemic change, exploring new methodologies on how the latter can be achieved and influence policy and decision making.

These models have been identified through examination of three major landscape infrastructure schemes, the Room for the River programme (RftR), the National Park for the West Midlands (WMNP) proposal and the SATURN EIT Climate-KIC project. All schemes integrate the ideas of policy, environmental practice, decision making and landscape awareness; however, for the purposes of this paper, the strongest points of each project are extracted. The three schemes have demonstrated new methodological procedures in each of the key concepts and they have tested them either during real-life implementation or in further case studies. Therefore such schemes are considered innovative in the ways in which they have dealt with current challenges and have given indications of how systemic change can be achieved. The first scheme, 'RftR-Design Quality and Implementation', is a completed landscape-led programme that demonstrates several methodological as well as policy delivery practices when implementing a climate adaptation scheme, and it is selected to represent the successful integration of design quality into the built environment. The WNMP-'Transformation' as well as the SATURN-'Pan-European Systemic Change' models are ongoing at the time of writing and therefore this paper will report on the current findings about the way in which landscape design can form perceptions and support policy in cities and regions. The methodology behind the three presented strategic schemes includes an in-depth analysis of their structure, project framework and design as well as policy methodological steps by the lead researcher conducted at the various locations of the schemes and included field visits, observations, interviews with experts and workshop activities with local stakeholders.

The data collected for this paper is based on visuals, stakeholder activities and observations. Maps, policy and technical documents, visual material, case study notes, drawings and images of sustainable approaches as well as outputs from the different workshops with professionals and stakeholders were collected and subjected to content analysis.

The Design Quality and Implementation Model – The Room for the River

Through a climate adaptation programme this model demonstrates the significance of landscape design, low carbon and spatial quality as ways to deliver environmentally-based infrastructure on a strategic scale. The RftR is a national-scale climate adaptation programme that was intended to form sustainable ways of dealing with rising sea levels in the country. Based on a newly developed design strategy, the programme ensured a high level of protection against rising water

levels in 34 project locations across the Netherlands while introducing design quality and landscape awareness as a major part of the environmental aspect of the scheme. The scheme is a good example of how quality of space and climate adaptation principles are embedded from the conceptual to the implementation stage of a strategic scheme. Using a policy and communication framework especially developed for this programme, RftR has also managed to educate professionals and the public about the impact of climate crisis through landscape design and the ways in which the 34 projects have been delivered.

The successful establishment of this major infrastructure scheme included two key goals: water safety and spatial quality. By putting the environmental and design ideas at the core of the whole scheme, the RftR offers an innovative alternative to traditional planning and the way in which the built environment has previously been conceived. It is important to mention that, based on evidence collected by the authors, the support received by the Dutch government and the continuous involvement of the local and national authorities during the various stages of the scheme have been proven essential with regards to the delivery of environmental and landscape quality ideas.[25]

To unpack and fully understand the impact of this model in relation to design quality and delivery, Figures 1–3 demonstrate key conceptual diagrams, a diagrammatic masterplan and one detailed visualization of the Nijmegen city project, one of the programme's 34 locations.

Figure 1. *Dyke Relocation and New River Waterflow Diagram for the City of Nijmegen, Room for the River Programme*
Source: Image Courtesy: Rijkswaterstaat, Room for the River.

25. A. Nikologianni, K. Moore and P. J. Larkham, "Making Sustainable Regional Design Strategies Successful," *Sustainability* 11, no. 4 (2019): 1024.

The significance of this scheme is in the central position of the policy and governmental support, and the continuous communication between multidisciplinary teams and national/local authorities. The success of its methodology in delivering spatial quality and hydrological efficiency at such a scale, is a result of the integration of landscape design with the built environment. This unique project has managed to provide an environmental vision on a strategic scale (Figure 1), whilst simultaneously fully supporting the businesses and economy of the area by creating a destination for residents and visitors (Figure 2). The true impact of how quality of space can be implemented is shown in Figure 3, where, through the medium of a pedestrian and cycling bridge, the concept of climate crisis and awareness is being vividly highlighted. Using the physical barrier between one's body and water, this design forces one's mind to understand what rising water level would mean and how an urban environment could adapt to it. Landscape architecture creates new ways of experiencing nature and enhances learning and environmental awareness at the point when quality of space is successfully implemented in a city. Landscape design and infrastructure must act as enablers to ensure a better understanding of nature and how to create sustainable urban environments.

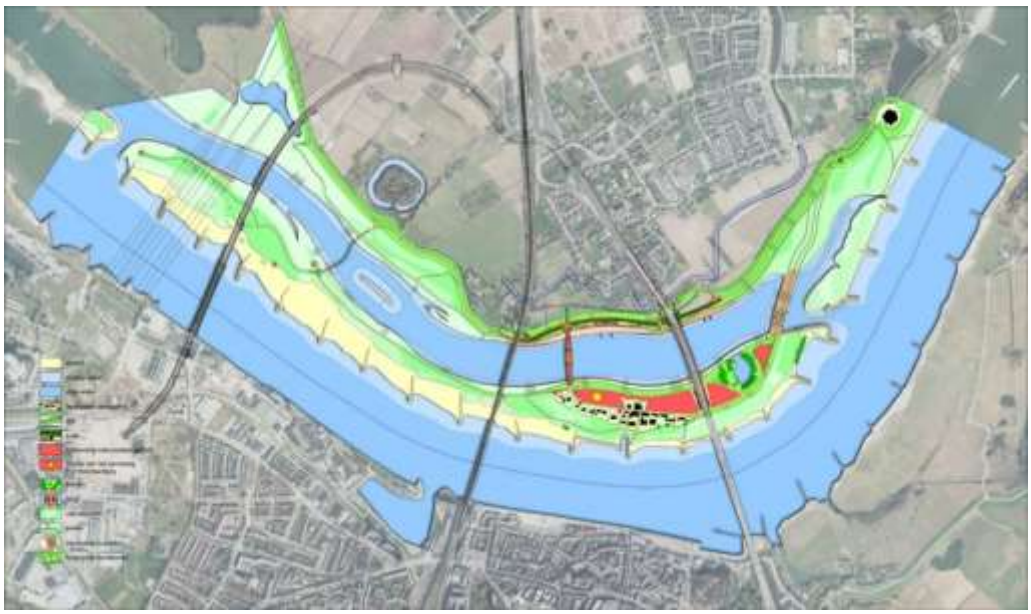

Figure 2. *Nijmegen Masterplan for the Room for the River Programme*
Source: Image Courtesy: Rijkswaterstaat, Room for the River.

Looking beyond the initial design and the necessary engineering work for such a major infrastructure development, these visualizations demonstrate design expertise and the full integration of environmental and landscape ideas. The diagrams enable us to unpack the initial conceptual ideas of hydrological efficiency and spatial quality, and to understand how such an area can be designed with suitable environmental principles without losing either quality or cultural and social engagement. Since the Nijmegen RftR project is completed and operational, it is appropriate to identify the design of the Citadel Bridge (Figure 3) as a good

example of how the broad vision and concept can be interpreted in reality and work as an exemplar of real-life environmental awareness and education through our daily interactions or routes within a city. Although a significant carbon footprint has been incurred in the scheme's delivery, its design and implementation have been justified as being beneficial for future-proofing the region and its completion will enhance the environmental, economic and social benefits for decades.

The delivery and successful continuation of the RftR strategic programme is a current example of how a landscape-led and environmental vision can be implemented without losing the key elements that make it unique and innovative, such as quality of space and climate adaptation methods. The Nijmegen RftR project is only one element of the RftR, but one which has dealt successfully with the transformation of an urban environment to an environmentally-friendly destination without compromising safety or quality of space. Its delivery has not been easy, but its success has resulted from a continuous communication process between governmental and local authorities, policy and infrastructure, with the important characteristic that it had landscape designers in a leading role of this development that preserved a clear climate adaptation concept.

Figure 3. *Citadel Bridge Designed by NEXT Architects Connecting the City of Nijmegen with the Veur-Lent Island. Left: Normal Situation; Right, Flood-Resistant Design*
Source: Image Courtesy: Rijkswaterstaat, Room for the River.

The Transformation Model – The West Midlands National Park (WMNP)

The second model explores the major transformation opportunities that a landscape-led infrastructure development can bring to a region. The West Midlands National Park (WMNP) proposal developed by the Critical Artistic Thinking in Design (CATiD) research centre at Birmingham City University offers a unique approach for the area identifying resilient ways to re-discover a hidden landscape

when supporting the social, historic and economic characteristics of the region.[26] The significance of this model is derived from several powerful drawings and a stakeholder engagement process that has allowed policy and governmental authorities to redefine the way in which they deal with regional scale, to the point that in June 2020 the WMNP was formally adopted by the West Midlands Combined Authority (WMCA) as the vehicle for a green recovery in the region in a post-COVID-19 era.[27]

The WMNP proposal offers a way to see a region differently, through the lens of landscape and climate crisis, that allows evaluation of the current decision-making methods and aims to lead to further transformation of the region towards a carbon-neutral future. By proposing a close relationship between people and place, and building on strategic initiatives, this model envisions the creation of an iconic landscape that will enhance identity of place. Its core principle is not to examine the concepts of land, sustainability, economy and culture as individual elements of a region, but to demonstrate that a successful transformation of a region needs to recognise these issues are interrelated and to produce a vision that will address them all to the best possible scenario. With the use of powerful diagrammatic but carefully-developed drawings, the WMNP aims to reveal the significance of visual material to the way in which we understand and act upon the landscape. The visual material developed by the WMNP is intentionally abstract (Figure 4) and focuses on the whole region instead of specific areas. In contrast to what has been presented for the RtfR project, where detailed drawings where used as examples, the WMNP is taking us one step back to build and establish a vision for the whole region, before we move on to more detailed and specific drawings. The RtfR project had also followed such a process in moving from the broader to the local scale. Through visioning workshops and stakeholder activities, this proposal has begun to demonstrate alternative ways to change the perceptions of the area and allow local authorities and communities to imagine a different, much more positive, future, particularly in some of the most challenging parts of the region.

Part of the WMNP process is to use design to redefine the region. Working with large-scale maps, as shown in Figure 4, the project unpacks some of the most important physical and cultural characteristics of an area (water, history, environment, society) generating a visual method that helps public and private actors to realise the potential of the region without being challenged by current hurdles such as business development, economy, housing problems and past-shaped perceptions. Even though the project is still in its conceptual phase, it has already begun to change perceptions in the region (WMNP to lead the region's green recovery - June 2020), enabling multidisciplinary collaboration and impacting on local and national decision making and the way in which policy is formed for our cities relating to nature. Challenging all stakeholders to think and

26. K. Moore, "Towards New Research Methodologies in Design," in *The Routledge Research Companion to Landscape Architecture*, 312-323 (eds.) E. Braae and H. Steiner. Routledge, 2018.

27. Birmingham City University (BCU), *The West Midlands National Park to Lead the Region's Green Recovery* (Birmingham, UK: Birmingham City University, 2020).

act differently (with the landscape as the starting point) and using design as a method to build a spatial vision, the WMNP has now started to overcome the expected initial denial and to be embraced by regional and national institutions and authorities.

Exploring post-COVID-19 scenarios and the way in which this pandemic has forced us to rethink and re-evaluate our response to nature in a city context, the transformation model introduced by the WMNP is an innovative approach that can be beneficial for different regions at a global scale. The accessibility and proximity of open spaces, especially if living in a densely-built-up urban environment, together with the advice to reduce long-distance travelling, has encouraged communities to get to know their neighbourhoods better in an unprecedented way. Since February/March 2020 it has been more apparent than ever that nature and green spaces play a major role in the way in which people can cope with stress and support their mental and physical health. The lockdown measures adopted as a response to the COVID-19 crisis have increased some types of outdoor recreational activity but have also demonstrated the "importance of access to green open spaces that are interwoven within the built-up matrix."[28] Therefore, it is clear that the built environment and landscape design have a major role to play in future-proofing our cities both in a climate crisis and with a public health perspective. As Venter et al. mention, "the current pandemic reveals some important dilemmas we might face regarding green justice on the path towards urban planning for future sustainable cities"[29] and the transformation model introduced in this section responds to the needed environmental as well as social and economic transition of the area. If we have learned something from this recent crisis is that no matter how deep in an urban environment we live, this cannot be wholly detached from nature and the landscape. Therefore, if we are to achieve resilience, it is time to re-examine our current processes and, for that to be successful, we need to constantly challenge ourselves as well as the system to change obsolete practices and perceptions.

28. Z. Venter, D. Barton, H. Figari and M. Nowell, *Urban Nature in a Time of Crisis: Recreational Use of Green Space Increases during the COVID-19 Outbreak in Oslo, Norway* (Oslo, Norway: Norwegian Institute for Nature Research, 2020).

29. Ibid.

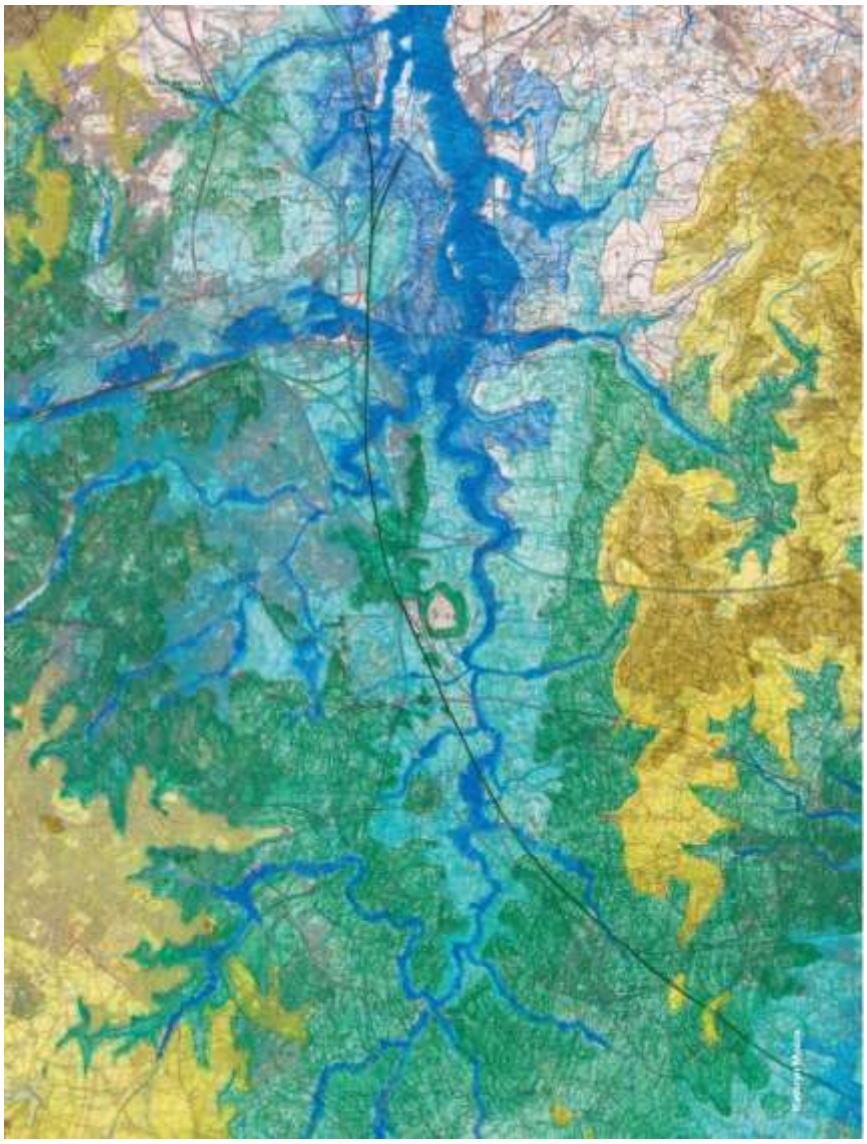

Figure 4. *West Midlands Valleys Diagram Emphasizing the Topography and Hydrology of the Area, Made for the WMNP Proposal*
Source: Image by Kathryn Moore.

Natural Assets and the Engagement of Cities – The SATURN Pan-European Model

SATURN is an EIT Climate-KIC pan-European project which deals with the re-integration of natural assets and aims to support cities and regions transition to a carbon neutral future.[30] Its aspiration is to extract best approaches from across

30. A. Nikologianni, A. Betta, A. Pianegonda, S. Favargiotti, K. Moore, N. Grayson et al. "New Integrated Approaches to Climate Emergency Landscape Strategies: The Case of Pan-European SATURN Project," *Sustainability* 12, no. 20 (2020): 8419.

Europe, create a supportive visioning and stakeholder process for local and regional authorities and test how such methods bring systemic change. With its focus on governance and an established collaboration between Birmingham (UK), Trento (Italy) and Gothenburg (Sweden), the project examines how landscape design and the built environment can support the movement towards urban resilience and what processes are required to do so across Europe. Although SATURN is an ongoing project, and therefore this paper only presents data from its first year of activity, it has already attracted international interest in response to its innovative communication process between the multidisciplinary teams and its goal to create a framework on valuing the landscape through design/visioning and a stakeholder engagement process using visual tools and drawings.

The project focuses on the relationship between cities, the landscape identity, natural assets in each area and food growing methods as well as social characteristics. At the core of this model is the principle that landscape visioning and resilient city planning is not an easy 'copy-paste' or 'one size fits all' activity, but through the development of a regional vision, strong communication and collaborative working, it is possible to develop methods, principles and frameworks applicable in other European and international countries. The process established by this model aims to generate holistic strategic frameworks, advise cities on landscape management, development and transformation, engage urban populations and help them understand the significance of their landscape and the impact of local food production. A crucial part of this initiative is also the re-evaluation of policy and strategic documents for the cities and the institutions involved, exploring ways to identify alternative methods to support the transition to sustainable communities.

Based on a three-tiered approach, the SATURN analysis includes a) an exploration of a holistic spatial approach and framework for each region, b) the use of ecosystem services and natural capital to map and evaluate the landscape potential of an area and c) the creation of a systems approach as a way to reveal new capacity building, stakeholder engagement processes and other hidden actors between the participating cities. A series of visioning and stakeholder activities have been designed and are now being tested throughout the consortium as well case studies being investigated. The visioning activities focus on how a holistic approach can be established starting with the views of each participant and progressing with a visual exercise by the different teams (Figure 5). The stakeholder, mapping, analysis and engagement exercises follow a series of visual tools that deal with the engagement process of different project actors (Figure 6). Using the built environment as well as design methods to demonstrate the value of the land, the SATURN model aims to build a comprehensive and flexible framework to guide cities on a more resilient path and spread awareness of what such an environment might be like. The goal is not only to highlight the natural assets of each area, but to build a collaborative network that will improve and update the knowledge, policy documents and engagement strategies and co-create an economically sustainable, scalable and environmentally friendly process for cities and regions. Specific tools are also being developed to support decision making at local and regional levels.

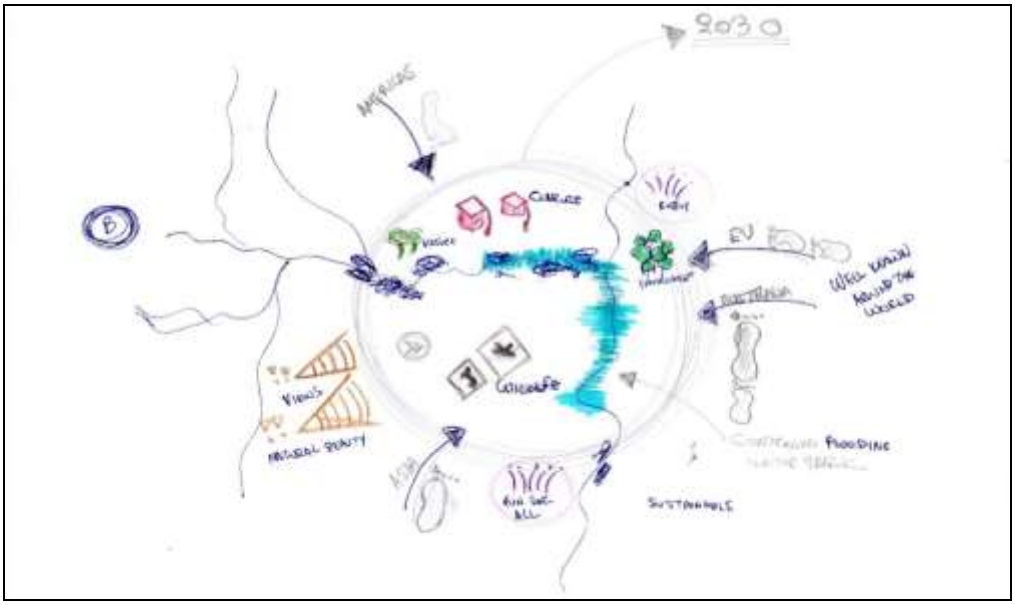

Figure 5. *Tame Valley (West Midlands, UK) Vision Developed during the Visioning Exercise Series within SATURN Programme*
Source: Image: Anastasia Nikologianni.

As this paper investigates how landscape design and the built environment can be the vehicles to promote and contribute to resilient cities, the issue of governance, nature and landscapes examined by SATURN are considered very significant. This pan-European model aims to change the land management approach which is currently determined by ownership and silos, and consider the natural assets of each area with a fresh approach aiming to attract business, tourism, and entrepreneurial activities while providing for the environment and the community. The existing fragmentation around the landscape, its governance and people's engagement are believed to be leading to a singular, often only technologically-focused, approach on climate change. The environmental approach of SATURN, with respect to the built environment, is not based on preservation or totally new designs, but on a restoration of the landscape value and the natural environment as ideas in order to increase the pride, the interest and awareness for our cities. Local authorities are often the first level of interaction with the public and they (local authorities) often have very different needs or aspirations, even within the same region. Especially in a post-COVID-19 era, it is expected that "substantial changes to future design, use, and perceptions of public space"[31] are unavoidable, and this paper argues that SATURN is already working towards this direction in relation to the climate crisis and the landscape in urban and regional areas.

31. Venter, Barton, Figari and Nowell, *Urban Nature in a Time of Crisis: Recreational Use of Green Space Increases during the COVID-19 Outbreak in Oslo, Norway*, 2020.

Figure 6. *The Pentagonal Problem Activity is One of the First Steps of a Series of Activities for Stakeholder Mapping and Engagement. This Activity Uses a Visual Tool from EIT Climate-KIC's Visual Toolbox*
Source: Example Presented from Birmingham Hub.

Discussion

The three-model approach presented above demonstrates significant ways in which innovative design and planning can address climate extremes and play a major role in a sustainable transition of our cities. A transformative vision, a well-thought project framework, the integration (in the design concept and framework) of qualities such as environmental characteristics and quality of space are key steps that lead to successful delivery of sustainable cities. Systemic change in civic and regional processes, alternative decision-making methods and the support of policy are essential in order to achieve integration of climate-related characteristics and spatial quality elements in strategic design. The successful integration of design quality during the implementation phase of an environmentally focused scheme, such as the Nijmegen RftR project, provides justification that a strategic development should not only rely on an effective engineering approach, but a comprehensive plan that includes public engagement and education. The model developed in the RftR has put design at the core of the project framework and has used it as a tool to deliver a climate-efficient scheme that addresses water safety without compromising the spatial quality, economic or cultural elements of the area. The coherent design concept has been assessed by multidisciplinary teams and discussed with multiple stakeholders before it reaches delivery point, however key principles (e.g., spatial quality and hydrological efficiency) were able to be delivered through their integration in a binding policy framework for the scheme.

The impact that the built environment and landscape design have in the delivery of resilient cities depends on professional expertise, the ability to exchange ideas and the need to establish a strong vision in alignment with the environmental challenges and the political situation of the area.

While embedding climate and spatial qualities is of major importance in large-scale infrastructural developments, the transition to urban resilience is still subject to other factors, as is demonstrated by the WMNP project. Both an in-depth understanding of an area, and a willingness to diverge from the well-known methods and processes adopted for decades by public and private stakeholders, is a crucial step in the path towards sustainable cities. Decision making in the past has often been driven by specific agendas, without necessarily following the environmental or even the cultural and social needs of a city. This paper argues that landscape design can unpack this neglected information, leading to new knowledge to support environmental, economic and social transformation. The WMNP has demonstrated that drawings and visual materials are powerful tools to build visions of a region as well as to reveal 'hidden' natural and social characteristics that are either neglected or overlooked in development and policy, but may be part of everyday local life. Based on a visioning method that allows for the establishment of a bigger picture instead of just practical challenges (e.g., where to build, transport), this process gives flexibility to the designers to examine an area with the lens of landscape design and to the public the chance to discover more about their region as a whole.

The engagement with local governance embedded in the SATURN project is another significant element contributing to the sustainable framework. Even if environmental characteristics, spatial quality elements and a new decision-making process are in place, the opportunity to collaborate with local authorities and co-create tools with public and private stakeholders is crucial in order to attract the interest of other cities and regions at a global level. The scope of SATURN, which is to provide solutions for the challenge of fragmented governance and neglected landscape while involving its major actors (city, public, major institutions, environmental organizations, agriculture sector and entrepreneurs), is a perfect mechanism to create a positive climate for this transition. SATURN engages with cities at a fundamental level and, through a series of capacity building and stakeholder engagement sessions, is seeking to bring systemic change. The three Hubs (Birmingham, Trento, Gothenburg) working on SATURN test the outcomes of a systemic change and the impact this will have to the decision making and overall transition of the city to a carbon neutral community.

Conclusions

The environmental challenges we face, the increase of extreme climate phenomena and the need for sustainable cities are increasingly evident. The novel experience of living during a global pandemic has emphasized the significance of, and need for, natural environments in order to support our physical and mental health and, therefore, the provision of and access to open spaces in urban or

densely-populated areas is becoming non-negotiable. An environmental or sustainable approach in design, infrastructure and any kind of development is a one-way route in the response to the climate crisis and this can be achieved through collaborative, multidisciplinarity and pioneer concepts that embed environmental as well as cultural and economic benefits for our cities.

The steps revealed by the three models, in addition to the assets of policy, strategic documents, and multidisciplinary teams which were adopted by all of the examples, demonstrate that achieving the goal of resilient cities is not an easy exercise, but it is achievable. The examination of those three strategic schemes has led to the conclusion that a major systemic change is needed in order to fully achieve environmental outcomes in spatial design and infrastructure. As a result of the large scale at which these schemes operate, it is not possible to generate environmental effects by addressing only one of the major aspects (climate, economy, society) or by considering them as engineering or technological innovations (smart cities, mobility). The three-model approach demonstrates that design, vision, multidisciplinarity and close communication must be the tools across the whole process of a scheme from concept to delivery. The close links to policy and legislation are necessary to ensure that the core visions and quality are not overlooked during implementation.

Recommendations by this paper include: open mindedness in the design and implementation process. Landscape design is suggested to be the medium that brings all environmental, engineering, economic and cultural characteristics together, however this cannot be achieved if there are no multidisciplinary teams within a strategic scheme. A systemic change is not easy, but the creation of a vision (in a diagrammatic way/drawing) for the city/region of interest will support this process and will provide further input as well as new tools to decision makers. Key elements of the vision and concept (e.g., climate resilient, spatial quality) should be embedded in the project framework and addressed as main goals in delivery while at the same time their delivery is 'protected' by policy or legislation. These principles apply to different project frameworks; however, it is important to have a dedicated team that will link and ensure such issues are addressed in relation to the specific area, its needs and characteristics.

Determination, strong leadership, willingness to identify new ways of thinking and cross-silo collaboration are key steps in the way to achieve sustainable cities. The power of landscape design to reveal the value of land, our memories and sense of belonging has been identified as a significant factor in changing perceptions and creating visions. The major role played by the built environment in global policy, if used effectively, will encourage design and planning that will make our communities increasingly environmentally and energy efficient, without sacrificing their natural assets by adopting only mass-produced technological tools that promise 'resilience in a box'.

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Architecture without Man: New Development Scenarios of Infrastructure and Innovation in Trieste

By Thomas Bisiani[*]

The study investigates the possibility of developing infrastructure in Trieste, as a larger system, on an international scale: The Belt and Road Initiative. The consequences of this development, in a city rich of research facilities and innovation centers, are innovative and propose new questions on the evolution of architecture and of landscapes linked to logistics and infrastructure and on the material and spatial consequences of digitalization. The research defines a set of specific possible project proposals, compatible or alternative to one another, but that once analyzed, they all underline how mankind seems progressively emarginated from these places. The architecture of the physical and immaterial infrastructures begins to light a new question, how its nature can appear both, anthropic and unrecognizably alien. It is about elements that are creating a real ecosystem at the global scale, essential to the maintenance of our way of life, but with respect to which we have become strangers.

Introduction

July 16th, 1945 at 5:29 A.M. in the Nevada Desert, the first nuclear explosion in history takes place. This is also the conventional starting date for the new geologic era called Anthropocene. This term is used in order to indicate how men and his activities are the main causes of territorial, structural and climatic changes of the planet.[1]

From this point of view, our planet is better represented by transport and energy infrastructure and by means of communication between its inhabitants and the resources of the earth.

Connectivity[2] has substituted division as the new paradigm of global organization. The infrastructure network is better at describing how the world functions rather than the political maps with its state borders.

Today the map of the world needs to represent the single cities, the means of communication, the pipelines and the energy supply network, the wirings and the other elements of the global civilization networks.

One of the consequences of this model is the continuous competition status between those cities that wish to obtain the maximum advantage from the added value reachable from their position in relation to the financial, technological, knowledge and talent fluxes that pass through these organisms.

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1. M. Carta, *Re_Cyclical Urbanism. Visioni, Paradigmi e Progetti per la Metamorfosi Circolare* (Trento: Listlab, 2016).

2. P. Khanna, *Connectography. Mapping the Future of Global Civilization* (New York: Random House, 2016).

It is clear that connectivity is one of the main drivers of the transition toward more global, complex and less foreseeable economic systems.

The scenarios that work, are not pre-dictated but rather describe processes: the greater the projection divergence, the more the scenario system that results becomes rich. In an era where the future appears very unsure, the elaboration of accurate future visions is not so much a matter of univocal and alternative choices, but of developing interconnections between the available alternative visions.[3]

From the point of view of connectivity, the current system that attracts the biggest international investments is the BRI (Belt and Road Initiative), a series of infrastructural projects by land and sea, primarily promoted by China, that have the objective that aim at reinforcing the commercial relationship between Europe and Asia.

In this scenario the port of Trieste, positioned at the northern edge of the Mediterranean Sea, constitutes an important access point into Europe for fluxes arriving through the Suez Canal (Figure 1). From the strategic point of view, this role is reinforced by the proximity to the Piraeus, whose port authority is controlled mainly by the Chinese. Trieste is also closer to Bavaria, one of Europe's locomotives, than the German port of Hamburg. In addition, it disposes of significant railway connections with Duisburg, one of the major logistics platforms integrated with the ports of North Europe and Budapest, one of the privileged access points of the European railway system coming from Asia.[4]

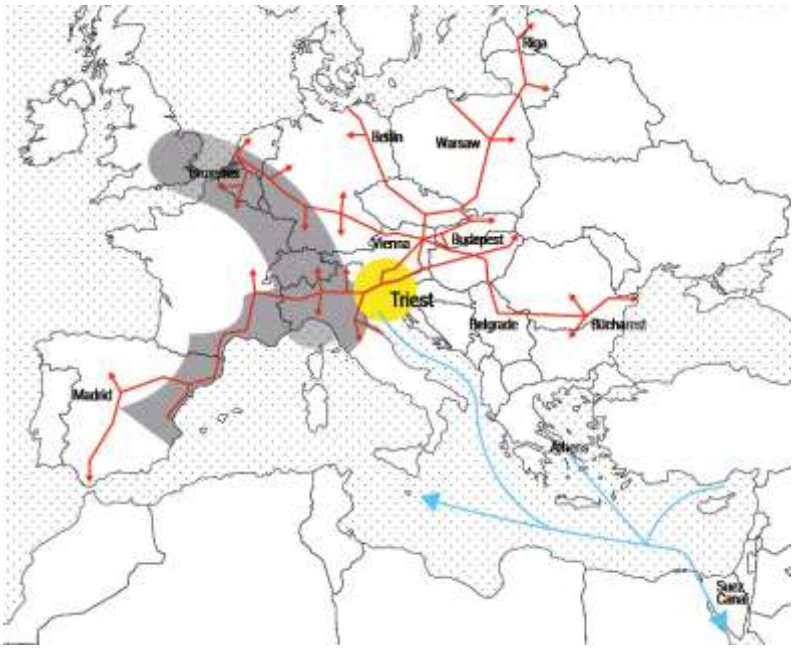

Figure 1. *Framing at the Continental Scale, Pointing out the European Macro Systems Blue Banana and Arco Latino (Latin Arch) and the Intermodal Node of Trieste (in Yellow), Meeting Point of the Sea Routes and the European Corridors*
Source: Elaboration by Matteo Savron.

3. C. Ratti and M. Claudel, *La città di domani. Come le Reti Stanno Cambiando il Futuro Urbano* (Torino: Einaudi, 2017.

4. S. Paffumi, "Il Secolo Asiatico e la Nuova via della Seta," *Icon* 54 (2019): 52-56.

The geography of the planet is not, however, only redesigned by infrastructural networks. The so called IV industrial revolution, that we are experiencing, is characterized by the use of Big Data as a new raw material and by the ease by which it is possible to develop new software. It is, nevertheless, a dimension only apparently intangible, the ethereal metaphor of the cloud, for the management and the elaboration of data from remote. It is in complete contradiction with the physical realities of the extractions of minerals necessary for the realization of all the digital devices that are part of our daily lives.

The derived schemes are chain rings that link the exploitation of the natural resources, the usage of manual labor and the elaboration of data through detection, logistic and algorithmic networks. The scale of this system, because of its complexity, is almost beyond imagining, so much so that the Dell computer company has declared to not be able to retrace the steps of its metal and rare land supplies necessary for the realization of its products, all the way to the source.[5]

The so-called smartphone landscapes are new panoramas that man is creating. An example can be found in Indonesia, where 30% of the tin used for the welding of all electric products of the world comes from. On the island of Bangka, vast areas are being deforested and dredged in order to make space for basins for the collection of process water. The extraction activity linked to the technologic electric chain, besides from being one of the causes of land consumption, is intrinsically unsustainable, as it regards the extraction of resources, that are by definition, limited.

Three cases linked to the port system of Trieste demonstrate how an ecosystem made of infrastructure and innovation can generate both conditions of development and crisis situations. As a consequence, it can't simply exist as it needs to be designed and managed:

Saipem

Leader in the energy and infrastructure sector, has placed in Trieste its hub for Submarine Robotics, where OIE (Offset Installation Equipment) is based and has been constructed. This is the most recent and highest technology in the world for the prevention of environmental disasters from underwater oil spills.

Java Biocolloid

Indonesian industry among the main manufacturers of red algae extracts for the food and pharmaceutical industries. It has established its European headquarters in Trieste, a location that favors the European, Middle Eastern and American distributions along with offering the opportunity to research and develop with the scientific organizations of the territory.

5. F. Cairncross, *The Death of Distance. How the Communications Revolution will Change our Lives* (Cambridge: Harvard Business Press, 1997).

The Coltan

The so called "blue gold" is a superconductor with great ability to store electric charges. In March 2019 a five ton container has been confiscated in the port of Trieste as it violated the laws regarding the handling of radioactive materials. The coltan should have been shaped and transformed in Trieste for the production of microchip and exported.

These examples confirm the existence of a model that rewards the provision of infrastructure and the commitment to innovation, bringing to light, however, criticalities linked to opaque traffics and to the exploitation of rare lands and limited resources of the planet.

Starting from such bases, this study wants to highlight regeneration scenarios of port areas that see Trieste as an incubator of innovation. The objective is to define a landscape of activities of high added value, able to influence the quality of life and job opportunities, exploiting its position as a new port epicenter.

From this point of view, the case of Trieste should not be interpreted as a unique and exceptional emerging phenomenon, but rather as a possible example that, besides its specificities, can help to define a development model of European cities of medium size.

Literature Review

The design process involving scenarios has been applied in Italy since the post-war period in the planning sector. Starting from the early 2000 these concepts have been represented and analyzed in greater depth subsequently putting them in relation to the use of new instruments and digital methodologies.

This methodology has been developed in Italy in the 50's by Giovanni Astengo, but it can also be found in later examples of application, in Europe, that develop the construction technique of the "previsione" (prevision), borrowing methodologies from the gaming simulation methods for war videogames or from meteorology; all areas that today refer to constantly more powerful calculation instruments.[6]

Astengo's proposed work plan provides a preliminary study for which big possible and alternative hypothesis are formulated in a schematic way, in order to compare them, and possibly subsequently reduce them, in order to extract a single final model.

We are dealing with a methodology that is in contraposition with the revision interpreted in the classic way; that is an extrapolation of a series of trends derived from historical facts[7] from which an image of the future is created.

6. G. Fraziano, T. Bisiani, L. Di Dato, C. Meninno, A. Venudo and M. Verri, *Le Regole del Gioco. Scenari Architettonici e Infrastrutturali per l'Aeroporto FVG* (Trieste: EUT Edizioni Università d Trieste, 2015).

7. M. Ferrari, "Reti e Nodi Contemporanei, le Architetture delle Infrastrutture," in *L'Architettura del Mondo. Infrastrutture, Mobilità, Nuovi Paesaggi* (ed.) A. Ferlenga, M. Biraghi and B. Albrecht. Bologna: Editrice Compositori, 2012.

Later in the 2000's, during the Urbanism PhD of the IUAV, led by Bernardo Secchi, numerous developments have been further advanced on the subject.

According to Secchi,[8] the transformation phenomena of the cities are overdetermined, that is, they depend on multiple factors simultaneously; this multiplicity of causes determines a complex model, and as a consequence, its interpretation becomes difficult.

The scenario becomes an instrument to deal with this complexity, isolating some specific aspects and asking the question "What could happen if…". By imagining the development of these phenomena until their extreme or most plausible consequences, images of the future are obtained. Such images can be incoherent or in competition with one another, as well as they can be in antagonism with the subjects that support them. In this case it does not present itself as a methodologic limitation but rather as a series of possibilities among which to choose or mediate in order to find in between solutions.

It is about a critical design that generates alternative choices and that is able to help construct compasses in order to navigate, rather than create preconstructed maps.[9] This is why the scenarios are able to balance the provocations as they hold a strong bond with reality, they also have hypothetical value and for this reason it is irrelevant if they concretely do not become reality.

In astronomical terms the universe of possible worlds is in continuous expansion and is diversified,[10] an experimental laboratory where the scenarios are tested, their propagation contributes to the acceleration of the design evolution through selection and mutation of new ideas.

The complexity of the urban phenomena has introduced the development of methodologies with descriptive nature. This effort results necessary in order to analyze the complexity of the urban model described by Secchi through the collaboration of other disciplinary fields and study areas not always usual.

In the past, such condition of complexity could have been caused by the very same analysis methodologies, that in their heterogeneity have described the urban phenomena as a vast trends mosaic, overabundant for describing the past and for defining the future.

Subsequently, the increasingly more pervasive use of digital technologies, both in daily life and in analysis techniques, has allowed to describe this complexity in new and more convincing ways.

Carlo Ratti in 2006 presents Real Time Rome, where the mapping of the usage of cellphones of the people allows to comprehend the urban processes in a dynamic prospective, through the live visualization of the fluxes in relation to the physical elements of the cities, proposing the basis for a real time iteration between the citizens and the urban services.

It is a typical application of the IOT (Internet of things) concept, that at the time could only be based on the evolution speed of the interaction between the

8. B. Secchi, *Diario 06. Scenari* (Planum, 2002).

9. A. Dunne and F. Raby, *Speculative Everything. Design, Fiction, and Social Dreaming* (Cambridge: MIT Press, 2013).

10. L. Dolezel, *Heterocosmica. Fiction and Possible Words* (Baltimore: Johns Hopkins University Press, 1998).

system of users and of the providers of services according to Bottom/Up and Top/Down logics, which have proven to be too slow.

Today through the capture of Big Data and its analysis with applications of Artificial Intelligence it is possible to separately collect and later aggregate large quantities of data. This allows to create more efficient digital twins, more or less complex and specific for what the study or analysis requires, allowing in the end, the systematic construction of scenarios by using techniques of digital simulations.

Carta[11] has theorized, with the manifest of the "Città Aumentata" (augmented city), a "stationary" model where a large quantity of sources, like technologic, biologic and human sensors, concur to define a cognitive framework that is capable of constructing collaborative scenarios that are able to modify themselves promptly where the data and the convergence of the fluxes represent the added value.

The immaterial dimension of the city is born with the concept of the global village,[12] way before the birth of the internet. Starting from the 80's, the so-called network society[13] and its reference context will be constructed: the space of the fluxes where the physical and the digital space mix.

The more radical hypothesis, linked to the post-information era and the so-called death of the distance[14] that had implied the crises of urban models, in reality, did not happen.

This means that the data landscape is not autonomous, a natural convergence between the bit in the net and the atoms in the cities is, in fact, happening.

In the last twenty years the cities have grown like never before, the majority of the human population lives in the cities, the urban life has become new normality.[15]

The cities, besides consuming the most part of our energy resources and being the principal cause of carbon monoxide emissions in the atmosphere, are also the centers of innovation and wealth that derives from the added value of the financial, technologic, knowledge and talent fluxes that pass through them.

The city then, is the solution, not the problem. New models have been emerging, such as the endless city,[16] the city of 40, 50, 100 million inhabitants in Asia and America. These cities arise in correspondence of the big communications and logistic spines and design new geopolitics, able to be more influential than entire nations.

Europe follows this tendency but with different growth rates and different models. According to ONU, 77% of European cities with more than 300,000

11. M. Carta, *Augmented City. A Paradigm Shift* (Trento: Listlab, 2017).

12. M. McLuhan and G. E. Stearn (eds.), *McLuhan. Hot and Cool. A Primer for the Understanding of and a Critical Symposium with Responses by McLuhan* (New York: Dial Press, 1967).

13. M. Castell, *The Rise of the Network Society* (Cambridge: Blackwell, 1996).

14. Cairncross, *The Death of Distance. How the Communications Revolution will Change our Lives*, 1997.

15. R. Burdett and P. Rode, *Shaping City* (London: Phaidon Press, 2018).

16. R. Burdett and D. Sudjic, *Living in the Endless City* (London: Phaidon Press, 2011).

habitants have experienced a growth in population and the 2030 prevision foresees this number to reach 96%.[17]

This is not an absolute tendency, there is a lot of competition between cities, and a selection between those that are able to offer better life quality and job opportunities is taking place. For this reason they are an attraction for the population and the younger generations, the others are destined to lose weight and importance. The cities emerging from this Darwinian arena are those who in the last few years have been able to program their future, constructing visions projected to 15, 20, 30 years and by placing mankind at the center of their programs.

In order to erect valuable scenarios it is important to keep the parameters that have been identified in mind, the trend and growth of the cities, the strategic meaning of the infrastructure and of the data, and the presence of the immaterial innovation factors in the physical context of the cities.

Methodology

The information derived from the past (our previous experiences, history), today is not sufficient to make the right decisions anymore.

For this reason, it is possible to resort to the methodology of the scenarios, as a simulation instrument, prevision and pre evaluation of great transformations, and in general as an instrument propaedeutic to design on different scales.

In this specific case, as shown by the entity of the affected areas, the proximity to the different administrative environments (Comune di Trieste, Comune di Muggia, Port of Trieste), the economic aspects (existing, in the course of developing and reconverted production areas), the social (the realization of new job opportunities and the increase in population) and political implications (strategic role of the Port of Trieste on a national and international scale), and the numerous public and private entities involved in the development of the areas under transformation are individuated. Through the scenarios some "metaprojects" have been defined in order to:

1. construct the main themes of the planning of the areas and of the single projects;
2. develop settlement principles and parameters of general dimensioning for the identified areas.

These metaprojects could become the guidelines for the design of the areas, and for this reason a second phase of more in depth study has been implemented and composed of:

1. the individualization, from a multitude of strategic places, of a specific area for the transformation;

17. L. Bellicini and F. Toso, Un Nuovo Paradigma Urbano: "La Città è la Soluzione non il Problema," *CRESME. Il Mercato delle Costruzioni* (2018): 8 – 13-8 – 14.

2. the construction of a platform (data, designated use, layout) of feasible development hypothesis.

The scenarios are not projects but simulations, "guided simplifications" of the problem, with evolutive and complementary characteristics, that allow to visualize the potentials and criticalities of the transformation of the areas and their evaluation under different aspects.

As simulations, the scenario is based on two design principles, one objective and analytic, formed on a collection of data and analysis, and the other dependent on interpretation, assessment and evaluation of the design proposals as a whole.

In order to answer the question "what would happen if…?" three main indicators have been picked out as the principal ones that construct, along with normal sizing criteria, more general topics that are able to place the areas along with a strategic vision of a larger zone (the port system of the eastern Adriatic Sea) (Figures 2-3):

1. infrastructure system;
2. plates and commercial and productive districts;
3. logistics networks.

The infrastructure system raises questions on the general mobility, on the organization of the accessibility to the areas and on the possibility to accept new uses and activities.

The plates and commercial and productive districts constitute the analysis of the economic-political situation, of the investment strategies and of the specific initiatives of the single operators.

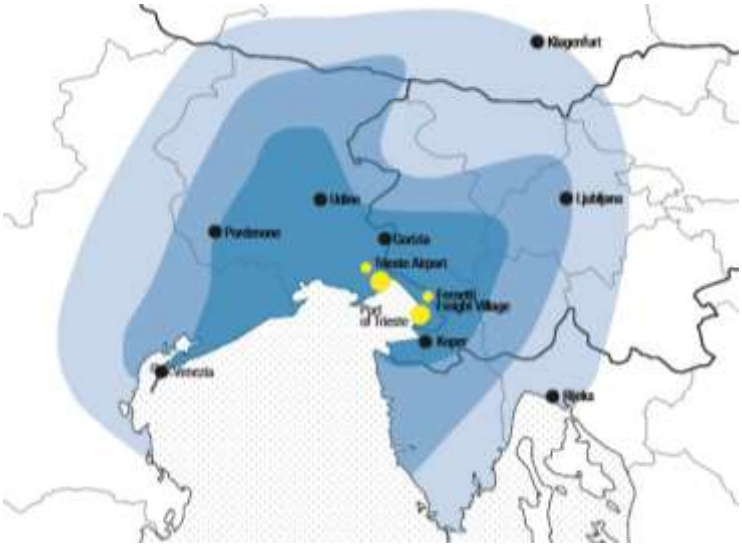

Figure 2. *Framing at the Regional Scale, Highlighting the Ports System of Trieste and Monfalcone, of the Fernetti Freight Village and the Trieste Airport (in Yellow) and Individualization of the Isochronous with Origin in the Intermodal Hub of Ronchi dei Legionari (60, 90, 120 Minutes)*
Source: Elaboration by Matteo Savron.

Logistics and degree of multimodality are key indicators, characteristic of the state of the affairs of the sites that are being evaluated which connotes its functional vocation.

Based on these indicators, characteristics and extent of the areas have been assessed and system variables and constant elements have been defined and have become the structural elements of the layout and of the main transformation choices developed on the project level.

From the methodological point of view, the study is developed as a natural successor to the previous research carried out with the University of Trieste, for the definition of the guidelines for the realization of the intermodal hub of Trieste Airport.

The project, elaborated by the research group of the University of Trieste, has received the GlobalAirRail Awards 2015 within the category "Travelport Project of the Year"; has received an honorable mention for the research activities of The Plan Best Paper 2015[18] and won for the research activities of the Propeller Club Port of Monfalcone.

Contrary to previous studies, that for thirty years have developed oversized proposals, the methodology of the scenarios has allowed to acquire the guidelines for the design of the intermodal hub of the airport that has later been built in 2018.[19]

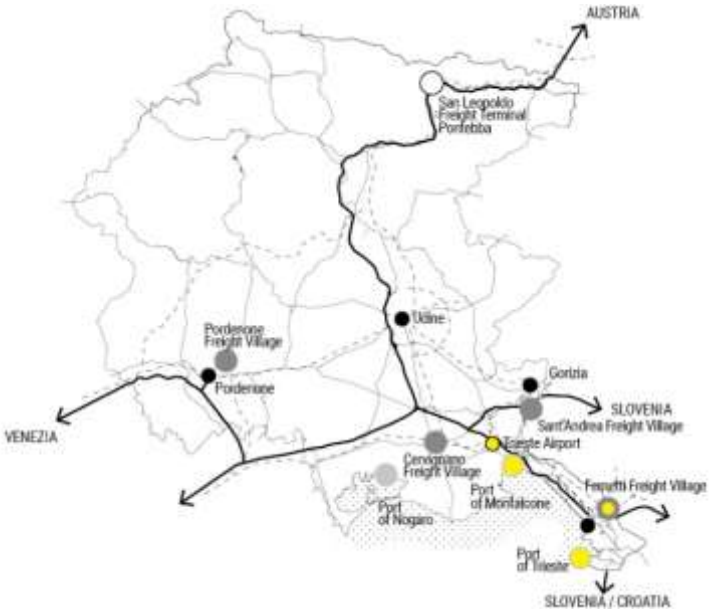

Figure 3. *Goods and Passengers Interchange Nodes of the FVG, Particularly the Ports of Trieste and Monfalcone, the Fernetti Freight Village and the Trieste Airport (in Yellow)*
Source: Elaboration by Matteo Savron.

18. G. Fraziano, *Trieste, la Misura del Possibile* (Trieste: Fresco Editore, 2014).

19. T. Bisiani, G. Fraziano, C. Meninno and A. Venudo, "Il Nuovo Polo Intermodale del Trieste Airport." *Studi Goriziani* 113 (2020): 113-129.

For the airport, three development scenarios had been identified, one alternative to the other, in order to evaluate the advantages and disadvantages and to define the suitability compared to the contextual conditions.

This approach has allowed to modulate by three degrees -one per scenario- a variable considered strategic in the case of the Trieste Airport, the level of infrastructural services.

The development activity of the scenarios was carried out on many scales and dealing with different disciplinary fields (planning, architecture, infrastructure). This multidisciplinary approach to the project has become necessary in order to ensure a solution able to guarantee the integration and interoperability of the single components of the new hub. Particularly the degree of detail obtained by the different architectonic and infrastructural scales has allowed the verification of the choices made in relation to the economic limitations of the Airport.

Thus it was possible to choose the optimal design solution in order to enhance the investment in relation to the functional program. The work, realized in 13 months, is currently at its second year of operation.

The second part of the research activity has applied the same methodology to the areas adjacent to the intermodal hub in order to define their future development.

In this case the hub was considered a constant in all three scenarios and different hypothesis of schemes, and intensity of use has been evaluated, in order to verify the minimal, optimal and crisis condition of the system.

The possible alternatives developed will allow the Administrations to knowingly choose one of the possibilities individuated or to rearrange them in a new complex framework.

The results of the activities, developed as an applied research, have permitted to elaborate the preliminary project for the new hub and the guidelines for the urban planning of the surrounding areas.

The development activities of the research have been articulated in operative phases that have involved different interdisciplinary skills:

- Identification of the demand for the projection and simplification of the problem: “what would happen if…”
- Identification of the goals and of the strategy: general picture of the hypothesis on the bases of data
- List of actors and of the entities involved
- Pre dimensioning of spaces, functions and definition of the layout, organization of data
- Definition of settlement rules and general parameters
- Development of the stages and timing (short, medium, long periods of time)
- Visualization of the places and the assumed transformations (visioning)
- Evaluation of the transformations and of the territorial implications (matrices)
- Synthesis of the results: system variables and invariant

In conclusion, the objective is to develop the scenarios, as they are simulations, not to correct the present nor to predict the future, but to positively influence it by exploring and comparing alternative possibilities.

Through the use of the scenarios and their comparison, it becomes easier to arise and underline the innovative elements that can, according to an evolutive logic, accelerate change.

Results

The first result obtained was the individuation of four strategic areas. Starting from the three significant indicators (infrastructure, plates and commercial and productive districts, logistics networks), the initiatives and the visions for both institutional actors (Comune di Trieste, Mare Adriatico Orientale Port Authority, University of Trieste, Area Science Park) and of stakeholders and private subjects, have been defined through interviews. The questions were about four strategic areas: the railway station of Prosecco, the Porto Vecchio, Campo Marzio area, and the Canale navigabile (Figure 4).

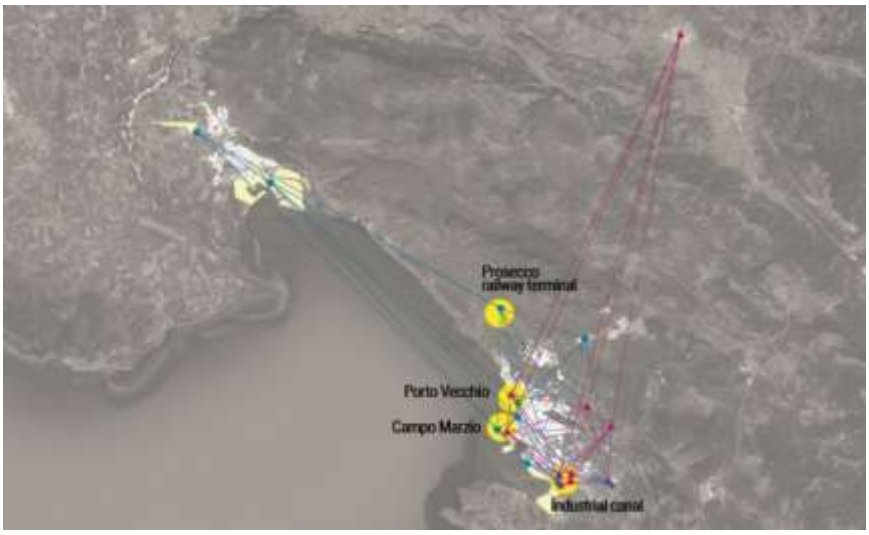

Figure 4. *Individuation of the Four Development Areas (in Yellow) and of the Two Macro Systems of the Infrastructural Services (in cyan) and of innovation (in magenta), comprised of Highly Innovative Activities*
Source: Elaboration by Matteo Savron.

Prosecco Railway Station

This is a retroportuale area with a railway yard, inside an industrial context of production and sale. The railway line, currently disused, can directly connect Trieste to Vienna, the production reality of the neighboring areas could deduce significant advantages from the reactivation of the railway, simplifying the transport of the incoming raw materials and of the outgoing products.

Porto Vecchio

The port area designed by the Habsburg between the end of the 800's and the beginning of the 900's is a great strategic interest for the city, as it is located in continuation with the urban fabric of the historic center.

Some of the characters of this area, in part already subject to transformations, include, docks with particularly deep backdrops and the presence of important realities for the research and development sector, such as the underwater robotics of Saipem and the headquarters of Euro Science Open Forum of 2020. The central station of the city is located nearby, and it amplifies the intermodal value of the space.

Campo Marzio

Located at the opposite extremity of Porto Vecchio, in continuity with the urban center and near the main entrance of Porto Nuovo, this area also offers the possibility to reactivate the second railway station at the head of the city. Logistics activities (steel, rubber and water) and of import-export can enjoy the benefits of the already existing infrastructures that enhance the area. Research and development can be placed in the many disused buildings with urban character present in the area.

Canale Industriale (Industrial Canal)

The development of this area with a total industrial character has large potentials as it is currently insufficiently valorized. The area is partially characterized as SIN (polluted site of national interest) and its transformation could also offer the possibility of an environmental regeneration. The existing docks already allow the mooring of large cargo ships, and the railway that passes through the surrounding industrial fabric has to be reactivated. Java Biocolloid has already chosen this location to position its European headquarters.

The cross referencing of the data collected during the interviews has permitted the selection, by comparing the strategic areas, of the area subject to a more in-depth study, that of the Canale industriale (industrial canal).

The field, where the primal interests of the participating subjects have converged, is composed of the lots of the former Tabacchi manufacturer and of the former Acciaierie Giuliane, along with a logistic area currently in disuse, located at the head of the canal and of the existing docks.

This area holds all the characteristics to reach a high potential of infrastructural development in a relatively short time frame, as it already has docks and a railway stop and is the interest of private industrial investments of innovative character.

The area occupies a strategic position, as it is located at the center of an area that the study has baptized as "logistics triangle,"[20] defined by the Porto Nuovo (new port) system, the logistics platform of the Molo VII, the new inland terminal

20. M. Savron, *Trieste: Nuovi Scenari per uno Sviluppo tra Infrastruttura e Innovazione*. Unpublished Thesis (Trieste: Università degli Studi di Trieste, 2020).

of Trieste and of the ex-area Aquila, and the future Multipurpose Terminal, recently acquired by Seastock, a public Hungarian company.

For this reason, it is important to underline that the position of Trieste guarantees, on the one hand, shorter travel times of ships coming from the Suez Canal, point of confluence of the eastern routes, and on the other, quick connections on railway tracks in the direction of the major European destinations. Following the individualization of the area, as a consequence, three alternative scenarios have been proposed that are able to answer all the different expectations of the actors interested in the development of the area: the cold chain logistics center, the industrial hub, and the data center (Figure 5).

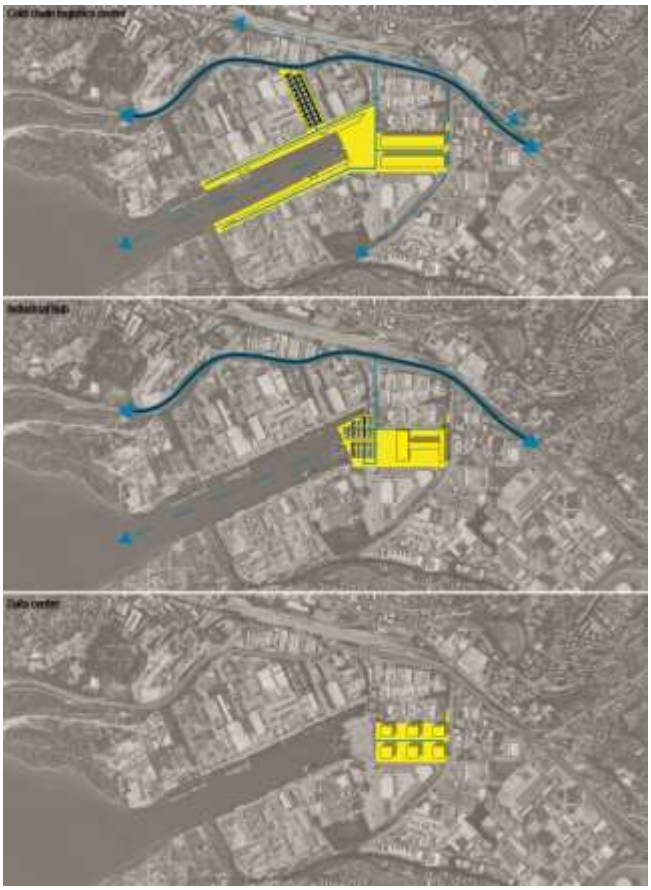

Figure 5. *The Three Alternative Development Scenarios Individuated for the Area of the Industrial Canal with the Identification of the Heavy Infrastructures Connected to the Case Study*
Source: Elaboration by Matteo Savron.

The Cold Chain Logistics Center

The conversion of the lot into a logistics area includes the construction of two large mechanized warehouses destined for the storage of goods. The two new buildings are to be placed in parallel with one another, and located longitudinally,

between the docks and the railway stop, in order to have large maneuver areas for the loading and unloading activities of goods.

Moreover, an important multimodal terminal is also included and it is articulated in three parts, at the head of the docks with the owners' headquarters, at the center with truck connections headed to the main arteries of the city all the way to the opposite side and to the railway station.

The ensemble guarantees a perfect reliability and operativity of the system, as well as minimal impact on the maintaining of the ideal environmental conditions along the cold chain for the right condition for the preservation of the handled goods.

The Industrial Hub

With the goal aiming at enhancing the development activities lined to the Sistema Argo and Freeway Trieste projects, and by utilizing the presence on the territory of Area Science Park, the third park in Italy for the birth and the development of startups, the scenario promotes an Innovation Factory located within the growing industrial fabric.

The structure is destined for the development of innovative products by providing in one place, the technology, the knowledge and the infrastructure in order to allow the designers with original ideas to quickly shift from concept to production. A workspace, but also a research center, that provides expertise on the subject of technology, knowledge and calculated monitoring of the research and development.

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Data Center

In the current geopolitical context, pots have assumed a growing importance as a strategic factor of a country that, through the sea, is projected to the rest of the world. In the eyes of the continuous infrastructural and technologic development, in this scenario the realization of a data center in service to the logistics and the transport systems, both within and outside the boundaries of the Autorità del Sistema Portuale del Mare Adriatico Orientale is proposed, with the objective aimed at digitalizing the port activities more and more and to maintain the terminal at a high competitive level on an international scale. The data center represents the fulcrum of this strategy, as it guarantees the 24/7 operations of all processes, the communications and support services of the logistics activities.

Among these scenarios a forth complex one has been determined, constructed by the union of the first two (industrial hub and logistics center), that has been developed on the design scale, identifying a hybrid solution (Figure 6) in order to

offer a wider range of solutions and maximize investments and interests of the involved entities.

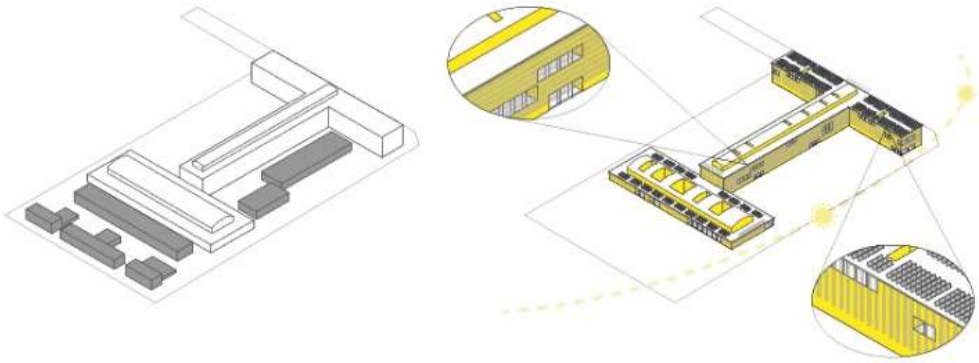

Figure 6. *Conceptual Diagrams of the Project Development Scenarios that Verify the Mixed Scenario of the Industrial Hub and the Cold Chain Logistics Center. On the Left, the Planned Demolitions (in Grey) and on the Right, the Study of the Facade Enclosing and of the Shading*
Source: Elaboration by Matteo Savron.

Discussion

The four strategic areas individuated, and the scenarios developed have been evaluated compared to the interests of the subjects involved, to the applicability of the methodology through scenarios and to the main themes of the study: innovation and infrastructure.

The area of the Prosecco station has a logistic and infrastructural freight village interest value for the municipality (Comune), Port Autority and the import-export operators.

It has the advantage of being able to become operative in a short period of time, but it did not seem to have any innovation potential in the research and development perspective, and so, for the purpose of the study it has not been considered meaningful.

Porto Vecchio attracts the interests of the municipality (Comune) and of the University of Trieste. The area measures 600 m^2 and so an overall strategic planning is necessary, and it cannot be developed by single private operators.

It is an actual part of the city with respect to which the methodology through scenarios, probably, can be more efficiently utilized only at a later stage, after the definition of some infrastructural invariant on the urban scale, as at the moment in this vast area "everything is possible."[21]

The possibility to work on an area with such urban value can definitely allow to develop a resilient and circular strategy, in order to minimize or limit its environmental impact, as the new neighborhood is about 15% of the current historical center.

21. Fraziano, *Trieste, la Misura del Possibile*, 2014.

The maintenance strategy for the elaboration of such large area, would better benefit by the consideration of the model of Hamburg Hafencity, rather than utilize the scenario methodology. In this case the private operators propose to the public single projects for limited areas that only later are coordinated together with the programs and the more detailed designs. This is the more interesting stage as the propriety of the areas passes to the private promoters only after the obtainment of the building licenses necessary for the realization of the projects.[22]

This way the local administration can maintain a strong negotiating capability until the end of the process, while the private promoter economically exposes itself with the purchase of the areas only after having the certainty that its project has all the necessary paperwork to start the construction.

This is a development by parts process that in Hamburg is achieving success and it is necessarily developed around a time period of 20-30 years. With its long term vision, this strategy, also allows to manage unpredictable factors and remodulate the choices already made in order to answer to unfavorable circumstances.

The Campo Marzio field currently attracts the interests only of the import-export operators, as the other subjects seemed to be more interested in Porto Vecchio, an area with similar characteristics, but with larger extension and greater potential. In the recent past however, the area has been subject to different development hypothesis, one in particular regarding "Parco del Mare" (Sea Park), in the configuration studied by University of Trieste for Camera di Commercio (Chamber of Commerce) in 2007.

The project was set up to develop a marine aquarium, museum and congress spaces, with commercial areas and supporting accommodation facilities. The location seemed strategic from the infrastructural point of view as it is close to the so-called Grande Viabilità Triestine GVT (Great Viability of Trieste), the primary highway access to the city. On the Rive (boardwalk) the Stazione Marittima (marine station) is located and it is used as a cruise ship terminal, besides being the public marine transport station. Correlated to the structure of Parco del Mare, two other innovation structures were also foreseen: l'Esposizione di Ricerca Avanzata (ERA) and the research center Sealab.

The Canale navigabile area, as anticipated, has been found as interesting by almost all of the subjects involved. The planned hypothesis was based on the logistic and infrastructural enhancement, regeneration and valorization of the industrial complexes in disuse by implementing new practices and development of production areas in FTZ (foreign trade zone) regime.

The visions of progress indicated are heterogenous and divergent among each other, for this reason the development through scenarios has resulted as efficient, as it has allowed to evaluate the different options from the strengths and weaknesses of each and define another intermediate synthetic scenario.

The cold chain logistics center is a greatly interesting scenario in terms of development of the area as it is easy to implement, from a technical-design point

22. D. Polkowski, ""HafenCity Hamburg" The vision becomes reality," in *European Green Capitals. Experiences of Sustainable Urban Regeneration* (eds.) G. Capocchin, M. Botti, G. Furlan, S. Lironi. Siracusa: Lettera Ventidue, 2017.

of view, as it only needs to reactivate an already existing logistics system and the realization of automated warehouses. The impact in terms of users and urban load is minimal but the innovative added value is limited. The intervention valorizes the equipment of the already present infrastructure and utilizes the position of Trieste along the intercontinental commercial lines that go through the Suez Canal.

A specific theme of this scenario is robotization, one of the drivers of the 4.0 industry and the so-called "digital disruption."[23] The examples of automated logistics and the progressive marginalization of human workers are a reality of the big operators on the global scale that are progressively making the storage and distribution processes autonomous.[24]

The industrial hub is also considered a progress scenario, the high research and development content of this hypothesis brings however, the presence of other users that could overload the area that needs to be monitored. The applied research can valorize the productive and industrial activities currently present in the area, along with the future ones, and as a consequence, the infrastructural system already present is to be reactivated. The activity is also integrated with the larger system of research and development of the city of Trieste, enhancing it.

The production aspects linked to this scenario convey the theme of circular economy and of management of process residues. The development of an industrial district based on circular principles, such as improvement as a whole of the use of resources, offers strategic advantages linked to minor costs for energy supply, for optimization of the production chains and for waste disposal and reuse.

The Data Center turns out to be the most extreme scenario, the urban load on the area is minimal, the activity seems to be of high innovative content and is the cornerstone of a new digital infrastructural system,[25] destined to manage the logistics of the Port that would have an avant-garde service, enhancing the role of Trieste as an intermodal hub of the naval routes arriving form the Suez Canal and the infrastructural European railway courses.

More than others, this scenario underlines characteristic themes of the IV industrial revolution, provision of services and management of Big Data. These are strategic areas and from these elements a new model of port can emerge, not a physical infrastructure anymore but as an agglomeration of services.

The first two scenarios, as indicated, have been used to create a new intermediate hypothesis that synthesizes in one solution most of the development proposals (Figure 7). The third scenario on the other side, has been considered incompatible with the first two. However, it does not have to be discarded as it offers an easy and quick implementation as an alternative solution.

23. C. Ratti (ed.), *Building(in) the Digital Age. Construction & Design 4.0* (Torino: Carlo Ratti Associati, 2019).

24. J. Le Cavalier, "Human Exclusion Zone. Logistics and New Machine Landscapes," *Architectural Design* 89, no. 1 (2019): 48-55.

25. L. Young, "Architecture without People. Neo-Machine," *Architectural Design* 257 (2019): 6-13.

Figure 7. *General Vision of the Architectural Intervention and of the Arrangement of the External Spaces and Connections with the Surrounding Infrastructural Systems*
Source: Elaboration by Matteo Savron.

Conclusions

The application of the scenarios methodology in a precise location and with declared objectives is necessary for clear operative reasons. However, in these final considerations it is necessary to overcome the specificities of the case study in order to individualize more open and general principles, useful for the application of the same methodology in other contexts and in order to unfold further research disciplinary fields.

Using the scenario as a means for design allows to obtain high maintenance flexibility for the project that is able to answer to diverse initial suppositions or to intervening mutations of context. Simulation scenario methodologies demonstrate the capability to develop adaptable solutions to varied hypothesis and situations.

An example is the mutation of context following the diffusion of Covid-19 and the crisis that has followed. The production and supply systems are being reconfigured from a global scale to regional dimensions in order to maintain adequate levels of autonomy and self-sufficiency. In this picture, the image of a world order based on regional terminals in relation to one another, is reinforced.

At the same time infrastructures and digital services, thanks to their immaterial dimension, result as less exposed to the problem and to the restructuring of the logistics as they seem destined to maintain their global dimension.[26]

26. A. Lombardi, *Lo Studioso Parag Khanna: Dopo il Virus Nascerà una Globalizzazione Regionale* (La Repubblica, 2020).

This study confirms the inversion of the hierarchy of the developed hypothesis, with a stronger proposal for the datacenter of the port, at the disadvantage of the industrial and logistics hub.

This global multipolar asset describes a dynamic picture where the two main hypothesis and methodologic choices remain valid: development of long term perspectives and infrastructural investments. As a consequence, creativity, innovation and engineering become strategic development areas, that allow some realities to become more competitive than others attracting new population and stimulating new forms of migration.[27]

In this case, one cannot only deduct these methodologic general conclusions; this study begins to outline some emerging architectonic typological questions,[28] linked to the evolution of new landscapes in between infrastructure and innovation. The analysis of the scenarios and of the compatible activities with the interests of the promoting subjects of the investments, as a result, recognizes a series of actions and spaces with respect to which mankind seems to be progressively emarginated or absent. A new landscape made up of and for our machines, where infrastructure and storage spaces, both physical and digital, minimize the presence of the human user, that becomes occasional and accessory.[29]

In any case, these are empty spaces but still strategic, indispensable, in order to guarantee the functioning of the cities we live in; these are places that define the identity of the contemporary western culture but at the same time, we can never access them. A system, in many cases thought out for us but whose form, materiality and function are configured to answer to the logics of the new artificial living, where we are nothing more than intruders in an architecture that is completely indifferent to our presence and is leaving us behind.

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27. D. Taino, *Ne usciremo tripolari: Occidente, Cina, Asia* (*Corriere della Sera*, 2020).

28. R. Koolhaas, *TRIC: Post-Human Architecture, in Countryside: A Report* (ed.) K. R. Amo. Koln: Taschen, 2020.

29. Young, "Architecture without People. Neo-Machine," 2019.

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Urban Transformation as a Desiring Machine: The Role of Information Flows during Urban Transformation in Turkey's Informal Settlements

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This paper aims to demonstrate that information activates the desire flows and makes the urban transformation machine work. It focuses on understanding how urban transformation currently works as a Deleuzian machine, rather than focusing on how it is implemented. The main focus is to map the trajectory of the word flows through the narratives. First of all technical knowledge flow through media texts and official public statements take their place in the urban transformation process. Technicians and scientists inform that we need to implement the urban transformation process. Then the media starts to glorify the urban transformation process representing how beautiful the new houses are. Finally in informal neighborhoods (which are entitled as gecekondu in Turkish urban system) the word flows transform into rumor flows. These rumor flows, which are ignored during the planning process, channel desire flows, making certain spaces more or less attractive and affect the whole transformation process.

Introduction

Urban transformation has become the most dominant process of urbanization in 21st century Turkey, as well in most of the world. The primary tool to justify urban transformation motives is the risk of earthquakes through new laws to reconstruct high-risk buildings and new funds to support residents in rebuilding their houses. Urban transformation has evolved over the years to affect all cities in the country. However, the people most affected are always the inhabitants of informal settlements, who have no legal security over their homes because their only option is to go to a mass housing area that does not suit their life style. The neighborhoods of Turkey's informally constructed houses, built autonomously by their inhabitants, are known as *gecekondu*. These provide both a housing alternative for low-income residents and a creative way to easily make connections with urban life through solidarity relations with family or fellow countrymen.[1] From the 1950s to 2000s, *gecekondu* neighborhoods changed in terms of the built environment and their inhabitants. Erman,[2] for example, claims that the developing representation of *gecekondu* inhabitants in academic discourse can be categorized

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1. T. Şenyapılı, *"Baraka"dan Gecekonduya: Ankara'da Kentsel Mekânın Dönüşümü. 1923-1960* (İstanbul: İletişim Yayınları, 2004).

2. T. Erman, "The Politics of Squatter (*Gecekondu*) Studies in Turkey: The Changing Representations of Rural Migrants in the Academic Discourse," *Urban Studies* 38, no. 7 (2001): 984.

under four major time-periods: "the 1950s and 1960s ('the rural Other'); the 1970s and early 1980s ('the disadvantaged Other'); the mid-1980s and mid-1990s ('the urban poor Other(s)' versus 'the undeserving Other(s)' and 'the culturally inferior Other(s) as sub-culture'); and the late 1990s ('the threatening Other')." These changing representations and improvements in the physical environments of these neighborhoods triggered the appetite of contractors to develop these areas (Look for "*Gecekondu* example" in Figure 1).

Figure 1. *Derbent Gecekondu Neighborhood*
Source: Photographed by Bilge Martan during TUBITAK Research Project no: 110k404.

Urban transformation in Turkey is just too complex to be explained in terms of flows of capital. Rather, it acts as a machine including physical, political, legal, and discursive flows, as well as desire flows that interrupt and accelerate the other flows. Despite the different western terms (regeneration, trasformation, renewal, renovation) to talk about reshaping cities, all such interventions are considered as "urban transformation."[3] This term encompasses all kinds of interventions by the public authorities and all kinds of spontaneous changes in urban areas. In Turkey, this process is used as a new capitalist strategy of urbanization. In every city, urban transformation projects improve the living conditions of the upper rather than lower classes. In this process, urban transformation projects not only lack any democratic, participative or social goals but also, with the assistance of the state

3. A. Ataov and S. Osmay, "Turkiye'de Kentsel Dönüşüme Yöntemsel Bir Yaklaşım," *Metu Jfa* 24 (2007): 57-82.

apparatus, but they are trying to maximize profits for the private sector.[4] Profit-led urban transformation tends to have only one consequence: the gentrification of lowincome neighborhoods, as seen in many examples in Turkey.[5]

Essentially, words flow through different channels of media, legal texts, statements of public authority, and word of mouth is the main mechanism of urban transformation. The most striking aspect of the news narrative regarding urban transformation is that it is primarily presented as the transformation of informal neighborhoods and a process of "ending the *gecekondu*" and replacing it with mass housing. From 2005 to 2015, there were more than 7,000 "urban transformation" news items in just three newspapers. Most of these news items presented figures regarding the number of constructed housing and comments about their modernity. They also emphasized how urban transformation was essential for the cities by quoting government statements about the desirability of mega projects and the beauty of shopping centers.

Accordingly, we are constantly bombarded with advertisements, TV video clips, or newspaper articles about new transformation projects, and lectured by commentators about their necessity. Moreover, in *gecekondu* areas, urban transformation does not only happen through legal processes or urban transformation projects because any project can initiate it, such as luxury residences, large shopping malls, or transportation hubs. Negotiations with individual inhabitants are very important as they can trigger and channel rumors, which certain spaces either more or less attractive by leading desire flows. Our case study focuses on Sarıyer, a district in Istanbul located on the north side of the Bosporus, where new roads and tunnels, and the Third Bosporus Bridge were constructed, as well as large private investments and luxury-housing complexes.[6] These new investments initiated a process that forced Sarıyer's *gecekondu* inhabitants to move to new mass housing areas located on Istanbul's periphery. This study adopts a new theoretical framework to analyze the urban transformation process in Sarıyer's *gecekondu* neighborhoods. These word flows in media brings us to find a new toolbox to read the urban transformation process in Turkey and the concept of "desire" seems to be useful to explain how things work.

Deleuze and Guattari[7] not only read capitalism through capital movements, but also add "desire" as a new input to these components. Desire flows are the most important input and result of the capitalist machine. They make desire asexual, remove it from individuality, and thus think together social production and desire production.[8] Deleuzian desire is therefore used in this article as an

4. T. Kuyucu and O. Unsal, "Urban Transformation as State Led Property Transfer: An Analyses of Two Cases of Urban Renewal in Istanbul," *Urban Studies* 47, no. 7 (2010): 1479-1499.

5. B. Şen, "Ekonomik Gelişmenin Kültürel Stratejileri: İstanbul Kent Merkezleri ve Tarihi Kentsel Alanların Yeniden Yapılandırılması," *Planlama Dergisi* 2, no. 36 (2006).

6. M. C. Yalçıntan, Ç. O. Çalışkan, K. Çılgın and U. Dündar, "İstanbul Dönüşüm Coğrafyası," in *Yeni İstanbul Çalışmaları: Sınırlar, Mücadeleler, Açılımlar* (eds.) C. B. Ayfer and Ö Cenk. İstanbul: Metis Yayınları, 2014.

7. G. Deleuze and F. Guattari, *Anti Oedipus: Capitalism and Schizophrenia I* (Minneapolis: University of Minnesota Press, 1983).

8. G. Livesey, "Assemblage," in *The Deleuze Dictionary*, 18-19 (ed) A. Parr. Edinburgh: Edinburgh University Press, 2010.

important tool for understanding how urban transformation works. For this article the definition of urban transformation in Turkey is drawn on Hillier,[9] who maintains that planning is the art of manipulation. That is, urban transformation becomes a desired object in the mass media and begins to act like a "desiring machine". Desire moves faster than the rules, procedures, or laws governing urban transformation.

To conclude, this study considers information as one of the most important components of the urban transformation machine. This paper aims to demonstrate that information activates the desire flows and makes the urban transformation machine work. It focuses on understanding how urban transformation currently works as a Deleuzian machine, rather than focusing on how it is implemented. The main aim of this paper is to map the trajectory of the word flows through the narratives. First of all technical knowledge flow through media texts and official public statements take their place in the urban transformation process. Technicians and scientists inform that we need to implement the urban transformation process. Then the media starts to glorify the urban transformation process representing how beautiful the new houses are. Finally this paper will focus on a *gecekondu* area to see how the words are flowing in the neighborhood itself. There I witnessed that all the word flows transform into rumor flows and touch the everyday life of every households.

The Toolbox: Machines and Planning

In discussing the question of urban transformation as the functioning of a machine, this study focuses on Deleuze and Guattari's approach. In addition to these authors' vision beyond the theory of the subject, pragmatically selected pairs of concepts were shaped through empirical research. The following sections present the relevant literature under three main titles: Deleuze and Guattari's concepts of desire and flow, their line in urban literature, and their discussions of the working process of word flows.

Assemblages of Desire

Philosophy of Deleuze and Guattari can be defined as a "philosophy of flow" and "assemblages". They underline that the issue of flow-cutting is fundamentally related to the machine, for which the capitalist system functions as a machine in itself.[10] Other machines connected to or interrupting this capitalist machine are also intertwined with this system. They state that the capitalist machine works through deterritorialization and reterritorialization and applies to all mechanical systems articulated to the capitalist machine.

Arguing that capitalism functions through constant decoding and recoding, Deleuze and Guattari claim that decoded flows may actually have emancipatory

9. J. Hillier, "Straddling the Post-Structuralist Abyss: Between Transcendence and Immanence," *Planning Theory* 4, no. 3 (2005): 282.

10. Deleuze and Guattari, *Anti Oedipus: Capitalism and Schizophrenia I*, 1983.

potential. That is, being able to split from conventional regulations and habits may entail emancipation of flows of desire. However, it is exactly at this point that the functioning of capitalism materializes and, immediately after the deterritorialization movement, the capitalist system assigns new codes that reterritorialize the decoded flow. They claim that the capitalism reaches its limits and moves them; it places them in a more remote place.[11]

Assemblage is a very useful concept to understand the perspective of Deleuze and Guattari. This concept can be considered a kind of heterogeneous association or a multitude. That is, an assemblage is not a homogenized arrangement but an expression of an arrangement formed by differences. An assemblage includes human or non-human, organic or inorganic, technical or natural heterogeneous elements.[12] For example, Deleuze and Guattari[13] state that the book itself is an assemblage. The assemblage in question can accommodate differences and change continuously, even though it is not an enclosed system that can relate to the outside. When we think of cities in this sense, they are assemblages formed by different people, animals, buildings, genders, and spatial arrangements with multiple uses and so on. That is, "the cities are the conglomerates consisting of people, networks, organizations, as well as buildings and streets and pipelines of various infrastructural components and energy flows."[14]

Here, assemblage is used to make Deleuze and Guattari's conceptualization of desire easier to understand. Another closely-associated concept, rhizome, has proved useful when considering specifically how flows of words move. Rhizome is part of the smooth space, denoting a system where root and stem cannot be separated; a system that challenges the tree-like hierarchic structure. Deleuze and Guattari's concepts of smooth and striated spaces are relevant here. They emphasize that the smooth space consists of points remaining between the lines whereas the striated space consists of lines remaining between points.[15] Thus, while there are many paths and possibilities to follow in the smooth space, the flow direction is always predetermined in the striated space. When we look at the conceptual couple of smooth and striated areas, we see that they are always together. Similarly, Patton[16] claims that the nomadic space is marked only by its transient and fluidity characteristics, such as smooth sand dunes in the desert, whereas the settled space is marked with striated lines and paths between striated closures.

One of the most basic questions in the use of philosophy in this discussion on urban transformation concerns the innovative perspectives of Deleuze and Guattari on desire. Desire flows can be thought of as the operators of all machines, including the capitalist machine and the urban transformation machine which is

11. Deleuze and Guattari, *Kapitalizm ve Şizofreni 2 - Kapma Aygıtı* (İstanbul: Bağlam Yayınları, 1993), 97.

12. B Anderson and C. McFarlane, "Assemblage and Geography," *Area* 43, no. 2 (2011): 124.

13. Deleuze and Guattari, "Introduction: Rhizome," in *Capitalism and Schizophrenia II: A Thousand Plateaus*, 1987.

14. M. DeLanda, *New Philosophy of Society: Assemblage Theory and Social Complexity* (London: Continuum, 2006), 6.

15. Deleuze and Guattari, "Introduction: Rhizome," 1987, 480–481.

16. P. Patton, "Deleuze and Democracy," *Contemporary Political Theory* 4, no. 4 (2005): 60.

focused on in this paper. For Deleuze,[17] desire is not a predetermined phenomenon but a result of an outside encounter. In the "D for Desire" part of Abecedaire, Deleuze explains that you can desire a cluster not only one thing.[18] Thus, desire is neither a deficiency, nor feeling that demands a deficiency; rather, this flow proceeds within a certain cluster.

This perspective thus goes beyond the Lacanian view that desire is a deficiency: in Deleuze and Guattari's perspective, desire is a flow that is simultaneously asexual and spreads to all aspects of life. Moreover, it becomes the main driving force of the capitalist machine. In this philosophy, desire flows are transformed into a production process. Deleuze and Guattari[19] explain this functioning mechanism in three basic steps: "connective synthesis of production", "disjunctive synthesis of recording", and "conjunctive synthesis of consumption". The first synthesis can be understood as a simple mechanism of binding or associating while the second is a more complex process that basically constitutes a wide smooth space. This surface marks the "body whiteout organs (BwO)", the surface where, after the first binding synthesis has been made, recording starts with the rupture of this bond for some reason. The third synthesis is a generator of "subjects". However, the idea of subject here denotes a formation of multiple subjects that allow contingencies and choices rather than a fixed, unchangeable subject. Holland[20] describes this situation as 'some' subjectivity, i.e. a sequence of subjective situations experienced, without necessarily having to reach a summit in a fixed subject with a specific identity". This subjectivation also entails territorialization.

Deleuze and Guattari in Urban Studies

Although Deleuze and Guattari's concepts are useful for understanding daily life and the functioning of the capitalist machine, very few academics have used them in an empirical study, still less in urban studies. In the urban studies literature, researchers drawing on Deleuze and Guattari's philosophy, fall into two basic groups. The first consists of people led by Ian Buchannan,[21] who consider space and Deleuze and Guattari's philosophy together. In Deleuze and Space,[22] the concepts of territoriality, actual and virtual,[23] assemblage, and smooth and striated spaces[24] are used to understand today's city. Members of this group argue about

17. Deleuze and C. Parnet, *Dialogues*, *Dialogues* (Paris: Flammarion, 1977).

18. P.-A. Boutang, Deleuze and Parnet, *L'Abécédaire de Gilles Deleuze* (Paris: Video ed. Montparnasse, 1996).

19. Deleuze and Guattari, *Anti Oedipus: Capitalism and Schizophrenia I*, 1983.

20. E. Holland, *Deleuze ve Guattari'nin Anti-Oedipus'u: Şizoanalize Giriş* (İstanbul: Otonom Felsefe Yayınları, 2006), 80.

21. I. Buchanan and G. Lambert, *Deleuze and Space*, *Deleuze Connections* (Edinburgh: Edinburgh University Press, 2005).

22. Ibid.

23. DeLanda, "Space: Extensive and Intensive, Actual and Virtual," in *Deleuze and Space* (eds.) Buchanan and Lambert. Edinburgh: Edinburgh University Press, 2005.

24. T. Lorraine, "Ahab and Bccoming-Whale: The Nomadic Subject in Smooch Space," in *Deleuze and Space* (eds.) Buchanan and Lambert. Edinburgh: Edinburgh University Press, 2005.

how the concepts of city and space originate and often compare them with other thinkers.

Members of the second group examine city and planning issues from the perspective of Deleuzean concepts. Their studies can be considered in two subcategories. Thrift,[25] McFarlane,[26] Dovey[27] and Farias[28] work on assemblages. Dovey[29] claims that informal practices are rhizomic in contrast with the tree-like strictures of urban regulation and planning. That is, they involve minor adaptations and tactics in contrast to the major strategies of master planning and informal network connectivity in contrast to hierarchical control. Discussions about urban transformation in *gecekondu* neighborhoods remind us of the duality between the smooth and striated spaces.

In the second sub-category, Hillier[30] discusses planning theory in relation to the philosophies of Lacan and later Deleuze and Guattari. Hillier particularly emphasizes and adds to the relationship between desire, needs, and demands by exploring the importance of desire in planning, which opens up the discussion of the relationship between actors and power. Hillier,[31] who argues that planning could be done in a more direct democratic way by working in more detail, has recently brought up the idea of unplanned planning. Like Hillier, Gunder[32] also pays attention to the place of desire within the planning discipline, noting that it is about fantasizing about the city of the future. Coming from a Lacanian perspective and using Lefebvre's arguments about the city, Gunder[33] concludes that planning actually homogenizes the fantasies and visions of the future of the city and shapes the whole city within the vision of the privileged class.

The theoretical framework of the present study is situated in the abovementioned second sub-category since it examines desire flows in the city, the axes of deterritorialization and reterritorialization, and the subjectivation associated with them from the point of view of urban transformation.

25. N. Thrift, *Spatial Formations* (London: Sage, 1996).

26. C. McFarlane, "The City as Assemblage: Dwelling and Urban Space," *Environment and Planning D: Society and Space* 29 (2011): 649-671.

27. K. Dovey, "Informal Urbanism and Complex Adaptive Assemblage," *International Development Planning Review* 34, no. 4 (2012): 349-369; Dovey and R. King, "Informal Urbanism and the Taste for Slums," *Tourism Geographies* 14, no. 2 (2012): 275-293.

28. I. Farias and T. Bender, *Urban Assemblages: How Actor-Network Theory Changes Urban Studies* (USA Canada: Routledge, 2010).

29. Dovey, "Informal Urbanism and Complex Adaptive Assemblage," (2012).

30. Hillier, "Agonizing Over Consensus: Why Habermasian Ideals Connot Be Real," *Planning Theory* 2, no. 37 (2003): 37-61.

31. Hillier, "Planning for Not Having a Plan," *Planning Theory & Practice* 18, no. 4 (2017): 668-675.

32. M. Gunder, "Passionate Planning for the Others' Desire: An Agonistic Response to the Dark Side of Planning," *Progress in Planning* 60 (2003): 235-319.

33. Gunder, "Production of Desirious Space: Mere Fantasies of the Utopian City?" *Planning Theory* 4, no. 2 (2005): 174.

Word Flows

Subjectivation as Deleuze and Guattari put it, is one the most useful discussions of their philosophy for this study for reading urban transformation in Istanbul. As Wood[34] emphasizes, Deleuze and Guattari argue that capitalism works with two different surplus values: one is quantitative surplus value in the Marxist sense while the other is qualitative and subjectivative surplus value. This subjectivative surplus value appears particularly through word flows and therefore through the media.

Regarding the specific place of the media and information in planning, Gunder[35] argues that the planning process plays a central role to support contemporary neoliberal ideology while the popular media is crucial for this ideological construction. Gunder[36] claims that planning is inherently ideological while ideology forms our chosen and dominant belief or values. These beliefs and values constitute what people want and choose. Thus, ideology in the planning process "reflects the dominant ideology of the time, which in much of the world continues to be defined by the evolving capitalist market."[37] He gives the example of Auckland, which is being promoted to turn into a "super city"; this fantasy organizes the beliefs of the community through the media.[38]

On the subject of rumors, Wright[39] argues that the accuracy of the content of gossip does not matter. Furthermore, once a rumor arises it starts circulating in the community on the basis of the adage "there is no smoke without fire". Rumor thus constitutes a "corridor of power". Wright[40] also argues that, although rumor is considered false information by definition, it can contain both truth and falsehood. He therefore emphasizes that the importance of a rumor lies in "when" it emerged rather than "what" it is.

Methodology

In this paper, Deleuze and Guattari's schizoanalytical method is used, to map how word flows and desire flows operate during urban transformation. The aim of schizoanalysis is to see and show the recoding process of the decoded flows. Deleuze and Guattari emphasize that all investments are social investment: There are no desiring-machines that exist outside the social machines that they form on a large scale; and no social machines without the desiring-machines that inhabit

34. S. Wood, "Desiring Docklands: Deleuze and Urban Planning Discourse," *Planning Theory* 8, no. 2 (2009): 204.

35. Gunder, "A Metapsychological Exploration of the Role of Popular Media in Engineering Public Belief on Planning Issues," *Planning Theory* 10, no. 4 (2011): 333.

36. Gunder, "Planning as the Ideology of (Neoliberal) Space," *Planning Theory* 9, no. 4 (2010): 299.

37. Ibid, 309.

38. Gunder, "A Metapsychological Exploration of the Role of Popular Media in Engineering Public Belief on Planning Issues," (2011), 334.

39. S. Wright, *What Everybody Knows: Protocols of Rumour* (Northeastwestsouth.net, 2008).

40. Ibid.

them on a small scale.[41] Thus, the methodology of this study is used to find out how the streams running desiring machines are coded, broken, or decoded.

Two basic techniques inspired by Deleuze and Guattari should be mentioned: data collection and data analysis. Deleuze and Guattari applied a method that we may describe as "handiwork" by borrowing the term "bricolage" from Levi-Strauss.[42] Considering it in terms of cultural studies, bricolage is the installation or interpretation of objects, forms, expressions, or relationships that are not directly related by recombining them.

Cultural anthropologist Levi-Strauss described bricolage as societies being able to find new solutions for new situations by combining existing tools in different forms. During this study, many verbal and visual materials from many different platforms are gathered. These comprised more than 7,000 news reports in 3 major Turkish national papers (Sözcü, Zaman, and Milliyet), TV advertisements, media and government statements, and legal documents.

The important part of the data of the research comes from over five years of participant observations made by the researcher in *gecekondu* neighborhoods threatened by urban transformation. These observations made it easier to identify the most important word flow channels and rumors that emerged before, during, and after the urban transformation. These rumors were divided into themes that gave clues as to which households moved from informal neighborhoods to mass housing should be selected. The households to be interviewed in depth were selected according to this analysis. The *gecekondu* neighborhoods that experienced relocation constituted a geographic cluster in terms of being subject to similar urban transformation projects.

More than 300 households had to move due to the projects in this cluster. A large portion moved to other places after receiving a certain demolition fee whereas some moved to the offered public housing before moving on again from there. According to the former *gecekondu* headman, Şükrü, who is now the director of the informal neighborhoods, there were no more than 100 households in each housing group. In-depth interviews were conducted with 20 inhabitants from 3 different *gecekondu* neighborhoods in Sariyer, of whom 12 moved to the new mass housing areas located on Istanbul's periphery (Kagıthane, Kartal, and Guzeltepe). Every participant was interviewed more than once to deepen the conversation and obtain more details about their current daily lives. A different place was chosen for every session (their homes, their favorite spots in the area, their workplaces) to observe better how they are living.

During this analysis, the focus was on forms of expression. The aim was not to find the hidden meaning behind what is said but to try to understand how that word works. In this sense, the analysis proceeded in a relational manner. Foucault tells us "not to go to the heart of a thought or meaning that will emerge; but, from the discourse itself, its emergence and regularity, towards the external conditions of its likelihood, which leads to the random sequence of events and determine the boundaries of this should be directed."[43] The aim is to identify how a discourse

41. Deleuze and Guattari, *Anti Oedipus: Capitalism and Schizophrenia I*, 1983, 354.
42. Ibid.
43. M. Foucault, *Söylemin Düzeni* (İstanbul: Hil Yayınları, 1987), 52.

triggers desire flows by connecting with other events and discourses and how it operates the desired machine. Thus, when looking at how a discourse works, it is important to look at what is not said, as well as what is said.[44] This study uses a qualitative data analysis methodology. I try to show how word flows and discourses become striation machines in the process of urban transformation. The superimposition of these data showed us the circulation of "words" from the citywide narratives to the mouths and actions of *gecekondu* inhabitants.

Technical and Legal Knowledge Flows

According to Deleuze and Guattari,[45] the capitalist machine continually dislocates currents to draw surplus value. Technical and legal knowledge operate together continuously during this transformation and are constantly interrupting currents and providing new ones. They also incite fear and despair, or capture desire flows. This process creates the surplus value and put the urban transformation machine work.

Laws

Laws lead to the transfer of property and powers from one person to another, to the restriction of its limits. While all the legal arrangements have not emerged within the framework of the urban transformation law itself, they are facts that determine the state of the rhizome that we now call urban transformation. Legal processes also work as a kind of striating machine, in which the state has a close relationship with the striated place.[46]

In 2005, public discussions on an urban transformation law for Istanbul started when the Chamber of City Planners (CCP) held a press conference regarding the Draft Law for Urban Transformation, in which they suggested that the draft law could create new problems (CCP, April 2005). In June 2005, the Law on Renovating, Conserving and Actively Using Dilapidated Historical and Cultural Immovable Assets was implemented. Although its name seems unrelated to urban transformation, it became known as the first law that proposed urban transformation for historic neighborhoods.

During these debates, changes in the law governing TOKI (Turkey's State Housing Development Administration) were not reported in Turkey's mass media. Instead, news reports about TOKI mostly emphasized urban transformation and the quality or number of houses built by the administration (14.02.2006, Zaman Gazetesi; 19.04.2008, Milliyet Gazetesi).

Ploger[47] argues that urbanism has been seen as a tool to shape order, prevent epidemics and revolution, and produce morally virtuous families while planning is

44. Deleuze, *Foucault* (Istanbul: Norgunk, 2013).

45. Deleuze and Guattari, *Kapitalizm ve Şizofreni - 1: Anti-Ödipus* (İstanbul: BS Yayınları, 2012), 318.

46. Patton, "Deleuze and Democracy," (2005).

47. J. Ploger, "Foucault's Dispositif and The City," *Planning Theory* 7, no. 1 (2008): 62.

a normalization apparatus. Turkey's urban transformation law can also be viewed as a normalization apparatus like Ploger's[48] description of the planning process. In the first stage, urban transformation focused more on poor neighborhoods and was presented as a process to "get rid of" informal houses. For example, a 2007 news article in the daily Milliyet (17.03.2007) noted "Illicit buildings will become 'normal' with the law of urban transformation". Thus, the urban transformation law became a new tool to govern *gecekondu* inhabitants.

In contrast to the reaction to earlier laws, society and the media reacted positively to the Law for Transforming Areas of Disaster Risk, passed in 2012. Kadir Topbas (Mayor of Istanbul) made a press statement regarding the new law during the opening of the ruling AKP's (Justice and Development Party) Bahçesehir Municipality Office. (1.03.2007, Zaman) In the daily Zaman, news reports appeared just before parliamentary debates on the Law of Urban Transformation regarding families who "were saved from *gecekondu* life" by moving into TOKI mass housing projects as a result of urban transformation in the period. (30.06.2012, Milliyet) Prime Minister Recep Tayyip Erdogan then used a speech to give a very specific starting date for the urban transformation (5.10.2012).

The information about these laws provided in the media aimed to mobilize society regarding urban transformation. As Wright[49] emphasized whether truthful or not, rumors about the laws created great excitement, which made it easier for desires to flow in the direction of urban transformation.

Earthquake Risks

Information about earthquake risks also played a role, especially in the initial stages of urban transformation. According to these earthquake risk rumors, *gecekondu* residents had to be moved from their homes and districts. It was no coincidence that Turkey's construction sector started to grow during the aftermath of the 1999 Izmit earthquake.

48. Ploger, "Foucault's Dispositif and The City," (2008).
49. Wright, *What Everybody Knows: Protocols of Rumour*, 2008.

Figure 2. *An Earthquake Scenario like a Horror Film*
Source: Milliyet Gazetesi. 15.08.2008.

This rumor may be traced back to a statement in 2004 in Milliyet by Kadir Topbas, who had been Mayor of Istanbul for only 5 months: "I will demolish them [*gecekondu* houses]. Let them [*gecekondu* inhabitants] call me evil". He declared that the authorities were preparing to empty Istanbul's city center and build new residential areas, such as Bahçesehir,[50] to "save" Istanbul, which was supposedly overwhelmed by illegal buildings (Milliyet, 06.09.2004).

In the early 2000s, in parallel with the timeline of these statements, word flows regarding earthquakes were dominated by technical information and usually involved statements by architects, public officials, and engineers. After 2006, however, contractors joined them.

The mass media reports highlighted public safety and risk to make a point about the deadliness of earthquakes and the risks created by them. This process, also supported by images, tended to create a significant perception of threat (see Figure 2).

Turkey's newspapers then began reporting that an "Earthquake-Centered Urban Transformation" was being initiated in Istanbul's old *gecekondu* neighborhood of Zeytinburnu Sümer (18.08.2009, Zaman). As Agaoglu (2010), put it, Istanbul could be demolished, not by an earthquake, but by construction firms. This example clearly demonstrates how highly technical information, such as seismicity or poor construction quality, can become a rumor.

50. Bahçeşehir, which means "garden city", is a large gated community on the periphery of Istanbul; the majority of its inhabitants are upper-middle class.

Figure 3. *Urban Transformation in the Country of Earthquakes*
Source: Zaman. 9.07.2012.

After the Law for the Transformation of Areas at Risk of Disaster was approved on 31 May 2012, more striking news about earthquake risks started to appear in the media, with newspapers increasingly arguing that urban transformation was the only solution. The report whose image is shown in Figure 3 emphasized especially that urban transformation not only concerns refurbishing buildings but also involves issues of society and environment. In the image used in the news article in Figure 3, which references Da Vinci's Vitruvian Man, a human silhouette covered with windows seems to relate to the urban transformation of the "ideal human". This picture can be correlated with Ploger's[51] statement about planning as an apparatus of normalization.

Hillier[52] argues that striation implies ordering, categorization, and regulation. Earthquake rumors establish a new thinking system through the flows of words that ultimately striate the entire city by stigmatizing some buildings or some districts as risky. Designating these areas in this way forces their inhabitants out to peripheral areas of the city into newly-built housing communities.

51. Ploger, "Foucault's Dispositif and The City," (2008).
52. Hillier, "Encountering Gilles Deleuze in Another Place," *European Planning Studies* 19, no. 5 (2011): 883.

In Istanbul's case, the displacement axis created by the urban transformation machine was established in two ways thanks to the seismicity discourses. Deleuze and Guattari claim that everything works wildly in capitalism: "This is because the capitalist machine supports decoded and outof-deconstructed flows, decodes them much more and makes them much more out-of-country."[53] The capitalist system relocalizes decoded flows immediately and assigns new codes to these flows. In the process of urban transformation, these new codes are included in the new lifestyle of mass housing areas.

Glorification of the Process

The urban transformation not only produces buildings but also new urban lifestyles and forms of information. These forms of information, created by a bombardment of knowledge and information, or new lifestyles, whose images will be shown thereinafter, have an important place in Deleuze's[54] conception of dreams: "A dream is a terrifying desire for power. All of us are more or less victims of other people's dreams. Even worse, even though the one whose dream you are caught in is the sweetest, most beautiful girl in the world, she may become a monster – not with her soul, but via her dreams. Keep away from others' dreams, because if you are trapped in the dream of the Other, you are f***." Information flows during urban transformation provide us with many dreams that do not belong to anyone. These dreams may be a flat, a luxury residence with a garden, a mega-city covered with mega projects, or a town surrounded by shopping malls.

Deleuze[55] claims that we desire not an object but the assemblage created by this object. Thus, desire is a state of flow. This process creates an assemblage, including newly-built high-rise mass housing apartments, where you can buy what you need from a big shopping mall or you need a car to drive to the city center. Consequently, *gecekondu* inhabitants are permitted to choose something from this assemblage and they can desire to have an apartment in these mass housing communities.

In 2008, the chief executive of the culture corporation owned by Istanbul Metropolitan Municipality wrote an opinion column in Zaman newspaper with the headline, "Is it urban transformation or cultural transformation?" He claimed that the main purpose is to build a homogenous rather than heterogeneous society, and added that urban transformation aims for us to dream together about the common future. This emphasis on homogeneity shows us the main paradigm of the process, which is to restrict the diversity of lifestyles. Accordingly, the picture of Istanbul illustrating report (Figure 4) does not show the usual historical part of Istanbul but the skyscrapers of Zincirlikuyu district. In parallel with the modernization desire in the article, the skyscrapers are the main feature of the picture.

53. Deleuze and Guattari, *Kapitalizm ve Şizofreni - 1: Anti-Ödipus*, 1993, 492.

54. Deleuze, *İki Konferans: Yaratma Eylemi Nedir? Müzikal Zaman* (İstanbul: Norgunk Yayınları, 2003), 30.

55. Boutang, Deleuze, and Parnet, *L'Abécédaire de Gilles Deleuze*, 1996.

Figure 4. *"Is it Urban Transformation or Cultural Transformation?"*
Source: Zaman Newspaper. 6.07.2008.

The most significant commercial film in this area is a Garanti Bank advertisement about housing loan opportunities. The leading character in the advertisement is a young shepherd in the countryside with his goats. An explosion causes some bricks to fall down to build a new multi-story house in front of the boy. When the shepherd looks through the window of the new building, he sees himself in the apartment. At the end of the advertisement, we discover that this modern, multi-story house is the dream of that child.

Figure 5. *Shepherd Boy and his Reflection Living in New Apartment*
Source: Garanti Bank Ad. 2008.

Gunder[56] argues that the communication media is used in the construction of society's accepted standards and lifeworld-constituting habits.

The advertisement we see in Figure 5 may be one of the best examples of these accepted standards because it highlights the attractiveness of the mass-housing life style, built by transforming the old way of life. At the end of the advertisement, a voice announces that Garanti Bank can give housing loans to make all these dreams come true. The advertisement thus shows us that the best way to make all dreams come true is to take housing loans, and this connection between dreams and debt can also be seen in the case of *gecekondu* neighborhoods. Standardized life styles in the standardized newly-built neighborhoods are the end products of this urban transformation machine. In Deleuzian terms, urban transformation striates the urban space, homogenizing urban life.

Information Flows in the Case of Gecekondu Neighborhoods: De- Reterritorialization

News about urban transformation in the media constitutes a mechanism that works like the desiring machines, as described above. The support of important leaders for urban transformation and the emphasis on the beauty of this process in the media play important roles in reshaping beliefs and desires, as Gunder[57] points out. These streams of information reshape desires, turning them into rumors of destruction in informal neighborhoods. It is impossible to see directly what news is reflected. Therefore, this section shows how the results of the dream about urban transformation are reflected in the lives of the residents. These rumor flows have produced many results, especially following the rumor of destruction and after relocation. We observe how two basic movements operate in *gecekondu* neighborhoods with all these information and rumors flows: deterritorialization and reterritorialization.

Deterritorizalization

Deterritorialization takes place through both unfavorable representation of *gecekondu* houses in news reports and incrimination of those involved in urban transformation negotiations. One of the most important deterritorialization axes is the process that is constantly repeated through demolition rumors.

56. Gunder, "A Metapsychological Exploration of the Role of Popular Media in Engineering Public Belief on Planning Issues," (2011), 326.

57. Ibid.

"*Gecekondu* Houses are Bad"

The representation of *gecekondu* houses that is reshaped in parallel with urban transformation portrays them from the viewpoint of the authorities, i.e., as a space that must be cleared and rebuilt. Most news articles refer to demolition and the mass housing areas to which people move. The representations of *gecekondu* houses emphasize the "difficulties" created by those that oppose demolitions and the "happiness" of those that have moved to mass housing areas. In this context, the intention is to ensure that residents of *gecekondu* houses, having been marginalized through these discourses, are then shifted to mass housing areas through the implementation of these projects.

First, that the way *gecekondu* neighborhoods emerged autonomously through inhabitants building their own houses while originally having only fragile links with the state is reminiscent of Deleuze's smooth space. Meanwhile, grasping mechanisms constantly try to grasp *gecekondu* houses. Components of these grasping processes include illegal building amnesties, planning for popular neighborhoods, the introduction of public authority institutions such as headmen, and various agreements reached with *gecekondu* inhabitants. The constant redefinition of a *gecekondu* house, in particular its being represented by the government and media as illegal, are major moves regarding grasping. *Gecekondu* houses are treated in news reports and official statements as inherently problematic. Thus, we can examine the question of *gecekondu* houses are observed on two basic axes: one is a discourse developed on the theme of the *gecekondu* as unmodern in contrast to the beauty of mass housing areas; the other is discussions focusing on the question of ownership.

The discourse on the theme of *gecekondu* neighborhoods being unmodern or is most prominently illustrated by the statements of then Prime Minister Tayyip Erdoğan. The earliest example from our scanning period (2005-2015) is a news report about a 2006 press statement in which Erdoğan asks journalists not to dramatize demolitions of *gecekondu* houses (13.04.2006, Zaman). The same year, in a Milliyet newspaper article reporting Erdoğan's statements, reference is made to illegal buildings on the shores of the Bosphorus, but the focus is on *gecekondus* rather than villas. 19.10.2003, Milliyet). Erdoğan's comment, quoted in the article, is remarkable: "Here is what I ask mayors to do: you must pitilessly demolish all illegal buildings."

In a Milliyet article on rent support for *gecekondu* occupants, the image used suggests dense urbanization in those "unwanted gecekondu neighborhoods" where people are presented as living in very 'difficult' conditions. Forcing a *gecekondu* neighborhood to relocate to a mass housing area while simultaneously dispersing it, results in residents being squeezed into new mass housing areas on Istanbul's periphery. Urban transformation thus deterritorializes these informal spaces before reterritorializing them in new mass housing areas on the periphery. Here, the theoretical narrative of Deleuze and Guattari contains an important observation connected with an analysis of capitalism. They argue that capitalism manages to survive thanks to its strategy of spreading from the center to the periphery: "At a constantly widening scale the reproduction of the internal limits of capitalism has

various consequences: it ensures increased wages in the center and improvement of life while displacing the most pitiless forms of exploitation from center to periphery but at the same time multiplying the over-exploitation ghettos in the center itself."[58] In relation to the functioning of the urban transformation machine, in particular, a significant finding is the dispersion of *gecekondu* neighborhoods from the center to the periphery.

Demolition Rumors

Since their establishment, Istanbul's informal neighborhoods have lived with the ever-present possibility of demolition. In this sense, rumors of demolition are not new for them; rather, it is a machine that they have been familiar with for more than 50 years. These rumors allow people to build a very complex style of communication.

In his article on how rumor works, Wright[59] emphasizes that rumors strengthen solidarity and a sense of community. We see this in *gecekondu* residents supporting each other during demolition stories and keeping watch to prevent demolition teams entering their neighborhood. Stronger solidarity and a sense of community also make rumors spread faster in the community. However, rumor spreads in a rhizome-like formation rather than linear fashion; information usually diffuses through multiple sources with different interpretations. This rhizome-like operation seems applicable to the *gecekondu* neighborhoods, where social relationships are also rhizome-like.

Even before the revelation of a specific project that affects *gecekondu* neighborhoods, urban transformation enters there as a "rumor of demolition". We call this process a "rumor flow" because no one is completely sure about where or how many demolitions will take place. Even today, statements by different interviewees about the demolition of different numbers of buildings are important indicators of this uncertainty.

In the case of Fatih Sultan Mehmet neighborhood (FSM), a rumor started that 300 buildings would be demolished for a road project. However, the municipality reduced this to 260 after various negotiations, and eventually only 35 buildings were demolished. An administrator in Sarıyer Municipality, Sükrü Muhtar[60] described a road project for Baltalimanı. He stated that 60 buildings received notices of demolition in 2004-2005 although it was previously estimated that far more buildings would be demolished. An investigation was conducted after an expert was appointed in 2005, which led to a "pro-people" report. Nevertheless, about 260 houses were demolished immediately after this in the presence of 5,000 police officers. A year later, the court cancelled the plan, so the number of buildings due to be demolished remained unclear even after the buildings had been demolished.

58. Deleuze and Guattari, *Kapitalizm ve Şizofreni - 1: Anti-Ödipus*, 2012, 492.
59. Wright, "What Everybody Knows: Protocols of Rumour," (2008).
60. Muhtar is an elected local authority of a neighborhood in Turkey.

Demolition has been a part of daily life for *gecekondu* residents since the 1950s, when they first built their houses. However, newspaper articles show that the first encounter of Sariyer's *gecekondu* neighborhoods with urban transformation after 2005 was demolitions in Derbent neighborhood. In the article "Demolition War in Sarıyer" (24.03.2006, Milliyet), it was reported that only one building was demolished as part of the urban transformation. This was met by a violent response from neighborhood residents, who built barricades following rumors that their homes would be demolished.

After 2010, a debate emerged in the media about "on-site transformation" in urban transformation. According to the article, *gecekondu* residents could stay in their own location rather than pay for a new house during the process. Supporting this, one of our interviewees, Ayse (Guzeltepe Neighborhood), stated that there had long been rumors about demolition in Baltalimanı. Similarly, Mehmet (Ugurmumcu Neighborhood) said he had known about the rumors of demolition in FSM since his youth. However, residents were unconcerned because "they will always say there will be a demolition, but they will never demolish it". This attitude made it easier for 35 buildings to be demolished in FSM.

Waiting a long time for a demolition is an exhausting process for residents. Such households in middle and lower-income groups give up repainting their houses or dealing with other issues in the neighborhood as soon as rumors of demolition start. The most important characteristic of *gecekondu*-type housing is that they are not constructed completely at once but are turned into livable, usable, pleasant houses through incremental modifications over the years. Therefore, the sustainability of *gecekondu* houses and their neighborhoods depends on constant small repairs and refurbishments. Disruption of this process, whether in the household or neighborhood, makes places unusable over time. Thus, the transformation of information flows into informal neighborhoods into rumors of destruction has been one of the most important reasons for accelerating the relocation process. The process of bargaining and moving starts in those neighborhoods where there have long been rumors that certain districts will be demolished.

"Who Received How Much?"

Rumors about who received how much money or who got the better house continue after demolition. This process, which works through various assumptions where everyone introduces different information for circulation, is a simple product of another ability of rumor: the ability to cause arguments. Wright[61] emphasizes that rumors may have a political role in playing people off against each other. The rumors that emerge when demolitions start, such as the person whose home gets demolished first will receive more money or the person who leaves will gain more, divide *gecekondu* residents.

Ahmet (Guzeltepe) stated that they learned that early negotiators were given more money whereas late ones were given less. Conversely, Tekin (Kagıthane) claimed that his family had an advantageous negotiation because they left very

61. Wright, "What Everybody Knows: Protocols of Rumour," (2008).

late. According to Sükrü Muhtar, people whose houses were in danger started negotiations even before their houses were demolished. Thus, who received what or agreed to leave when always included dubious information. Tekin (Kagıthane) said that he knew Istinye Park (a shopping mall)[62] compensated the residents' costs. Therefore, they saw Istinye Park as responsible for the buildings demolished by the construction of a school and mentioned the underlying agreements.

In these new mass-housing communities, everyone thinks that they had the most beneficial negotiation. In the *gecekondu*, due to their solidarity relations and close friendships, residents could act together to solve a shared problem, borrow money from neighbors, socialize in the each other's gardens, and even look after neighbors' children.[63] However, mass housing caused these activities to be lost because of relationship breakdowns. Halil (Guzeltepe) said that his neighbor sued him twice because he tried to raise money without any receipt to solve problems in the new building. He recalled that raising money for this kind of activity was very common in the *gecekondu*, when everybody would show solidarity. Fatma (Kağıthane) said that when she was sick for a fortnight nobody came to visit her. In the gecekondu, they had always looked after each other, but here in this new building, even the old neighbors have doubts about each other. Regarding new activities, Halil (Guzeltepe) had registered for a saz class (a Turkish musical instrument) while Cem (Guzeltepe) passed most of his time in Beyoğlu while spending a lot of money. Such changes have had major impacts on the residents' everyday life. Without their previous solidarity networks, they have lost the ability to act outside of the capitalist system and are forced to adapt to the mass-housing life style.

Reterritorialization: "We are not the Same Gecekondu Inhabitants Anymore"

Even once the process has been completed and certain households have been moved from the gecekondu, different rumors flow in the new neighborhood. These rumors start to disrupt and change the networks built over many years. In the interviews, ex-gecekondu inhabitants complain about "not being in their old neighborhood", "there being no such neighborly relations as in their old neighborhood", and "having to acquire new habits". This change has entailed a new subjectivation, which is discussed in this section under several categories.

First, in mass-housing buildings, various components are repetitive and standardized, from the landscape to the location of the buildings, even to the design of individual apartments. Although one may think that these layouts and forms are justified by reducing costs, they are also designs that produce uniform daily life patterns.

For example, in the entrances to the new mass-housing buildings in Kağıthane, Güzeltepe, and Uğurmumcu, there are large numbers of mail boxes, posted

62. For further information about the Istinye Park case, see Yalçıntan, Çalışkan, Çılgın and Dündar, "İstanbul Dönüşüm Coğrafyası," (2014).

63. G. Aksümer and H. Yücel, "Immaterial Dimensions of the Right to the City: The Case of Istanbul's Derbent Neighbourhood in the UrbanTransformation Process," *Planning Journal* 1 (2018): 76-89.

apartment building rules, announcements about unpaid charges, and warnings like "Do not sit on stairs!" and "Keep the building clean!"

Fatma (Kağıthane) complained that the apartment balcony is too small for storing things, so that they are not able to store as much foodstuff from their village as before. The issue of foodstuff was brought up in one way or another in all the interviews, and it was said that the building of a store was being discussed. In addition, residents complained that, because it is forbidden to close in the balconies with PVC windows, residents cannot use them as cellars as they had in the *gecekondu*.

Secondly, the factors mentioned above changed relations between neighbors changed. Halil, for example, told us that his neighbor sued him for collecting donations without issuing receipts.

"One of the occupants of the building sued me twice. I tried to collaborate with the others here… That person, that I do not want to name, was my close neighbor in our old neighborhood".

Halil added that the traditional method of collecting donations had worked well on many occasions in the *gecekondu*. However, people no longer trusted each other in the new buildings.

Both Cem and Halil complained that none of their neighbors was sufficiently "urban", which created difficulties in communicating with them. As Halil put it, "They have come from the suburbs of Istanbul, from the marginal parts of the city, where they used to live in their own way without much contact with the outside world. They continue to live here combing their rural or small-town culture with that of the big city". He felt that, as they failed to become real city-dwellers, they were unable to adapt themselves to the formal nature of relationships of an apartment building.

This process of separation between neighbors made families become smaller and smaller, and withdraw into themselves. Deleuze and Guattari emphasize that the family is a microcosm adapted to express that over which one has no control.[64] That is, the family appears to be a major reterritorializing institution in the mass-housing life style. More specifically, we found it significant that interviewees referred to their nuclear families as a closed group. Consequently, neighbors – even from the same native town or village, or even cousins or elderly people living in the same house – tended to be excluded from this microcosm.

Thirdly, the residents have now found new jobs and acquired new habits. Yet, there is a wish to escape back to the old neighborhood. As Halil noted, "This place suffocates me incredibly. You can't believe it! I live in my house as in a hotel room now". Halil took up sport as a way of escaping from this place and joined a saz (traditional musical instrument) course. Similarly, Cem (Güzeltepe) said that he spends his leisure time in courses because he feels depressed in the new neighborhood, which lacks anywhere to chat with other people.

Tekin admitted almost never spending time in his new housing area despite liking it very much. Instead, he goes back to Sarıyer to meet his old friends from the *gecekondus*, spend time in coffee houses there, and attend events, association activities, meetings, etc. He finds that the new neighborhood has become a

64. Deleuze and Guattari, *Kapitalizm ve Şizofreni - 1: Anti-Ödipus*, 2012, 351.

disciplined area with rules and prohibitions that force him to escape as soon as he can.

Mehmet (Uğurmumcu, FSM) made similar comments. Although he likes his new place very much, it is "boring" in many respects. To live in a created "tube" and travel between home, work, and social life by car exacerbates his sense of being locked in. To avoid spending the bulk of his time commuting, he moved to a studio flat in center of the city to have more time for himself.

Fourthly, for those that live in a mass-housing area, time is more divided and more planned: work in the morning, dinner in the evening, spending time with children, leisure time activities at the weekend. Time is more segmented and more linear. This span of time is also largely predetermined and resistant to the introduction of new things. During our fieldwork in the mass-housing area, we could only meet interviewees if we gave them plenty of notice, and then had to call them 2 or 3 times.

These comments about time bring to mind the rhizome concept, defined by Deleuze and Guattari[65] as a non-hierarchical form of organization. We believe this is a diagram that can be applied to various aspects of life. House time can be considered in two different types: time spent in a *gecekondu* consists of small segments that are more circular and improvised, without a feeling of linear progress. In contrast, in a mass-housing area, the perception of time requires constantly running farther and farther for fear of missing one thing or another – i.e. a linear perception of time.

Discussion

This article emphasizes that urban transformation does not happen only through legal edicts or capital projects, but may also be led by the emotions created in citizens by words and images. Word flows are not merely tools to read the situation; rather, the mechanism of urban transformation works via these word flows themselves. Thus, in presented study, word flows in urban transformation appeared at different levels, from the scale of Istanbul to the scale of *gecekondu* neighborhoods. We found that the machine is indeed working through arguments that appeal to emotions, such as fear, desire, and excitement.

The flows created by urban transformation are sometimes in the form of advertisements, laws, or even rumors and words. The machine reveals a mechanism that produces and operates through these flows. The urban transformation machine is thus a desiring machine, related to the flows produced and operated by it. That is, rather than operate in the presence of demands or existing desires, the machine itself acts by creating desires and interrupting existing desires. Urban transformation does not work by demolishing and building new buildings, but by having new dreams. The process is carried out as a kind of deterritorialization and reterritorialization. Deterritorialization occurs not only by constantly making new spatial arrangements from one space to another but also by channeling flows, of which the most important related to urban transformation are

65. Deleuze and Guattari, *Anti Oedipus: Capitalism and Schizophrenia I*, 1983.

words and images. These flows perform the shift from technical knowledge to information, on the one hand, while drawing desire flows towards new paths on the other.

From our examination of the legal framework, the risk of earthquakes, the glorification of urban transformation, and the de-re-territoralization of informal houses we identified three kinds of movements: the first incites fear and despair; the second leads desire flows through the newly-built mass-housing areas; the third is word of mouth, which significantly influences decisionmaking processes. The first of these movements – horrifying earthquake scenarios, photos of collapsed buildings, and negative representations of *gecekondus* – have triggered fear in the society. The specific argument emphasizing the unhealthy nature of *gecekondus* has marginalized them while praising the mass-housing areas being constructed on the city's periphery.

Secondly, the new residence typologies we encountered in the advertisement, emphasize how beautiful urban transformation is while the context denies *gecekondu* residents any option other than mass housing. These factors "incite" the machine and send *gecekondu* owners to the urban periphery. These two movements activating urban transformation rely on word and image flows to create knowledge about the process. We therefore argue that knowledge is spread like rhizomes, and interacts with other knowledge, movements, people, or inanimate things to become information. The news reports, advertisements, and public speeches of officials channel information and oblige people to participate in the process of urban transformation.

In the third movement, the interpretation of a law or a transformation project creates various speculations so that rumors of "destruction" spread through *gecekondu* neighborhoods. Simultaneously, the media, and even the public authorities, manage the process through a bombardment of such information. In addition to snippets of information, such as what project will be implemented where or which neighborhood will be demolished, many rumors circulate about when the Law of Urban Transformation will come into force. This circulation significantly influences the transformation process.

Rumors of demolition are strengthened by claims, such as a "modern" flat or "good money" will replace the demolished house. These can be traced back to rumors after the demolition about who received how much money, which destroys relationships between neighbors. This breakdown also impacts the urban transformation mechanism, which has the power to change the life style of old *gecekondu* inhabitants. Solidarity networks are dissolved, old socializing habits disappear, and the inhabitants are forced to adapt to a new life style.

Conclusions

In conclusion, alternative solutions may benefit many agencies in terms of promoting participation and reducing conflict of interest among different actors such as government, communities or professionals. After all, the research mainly shows that any actor does not look for a transparent process.

First of all we encounter the bombardment-like circulation of words that makes urban transformation ambiguous as a process. This ambiguity creates an insecure atmosphere for citizens that push them to accept the only option offered by the authorities. Meanwhile, the media and public authorities help to create a very attractive environment for the new mass-housing areas.

The standardized life styles in the new standardized neighborhoods are the end products of the urban transformation machine. In Deleuzian terms, urban transformation striates urban space and urban life. In our case of Istanbul, the process cannot be explained simply as neoliberal urbanization or in terms of the profit motive of capital holders.

New settlements are deprived areas in comparision with old gecekondu neighborhoods. Inhabitants are suffering from not to be socialized anymore.

Rather, this process expresses a very domineering imposition of a unique life style that is homogenizing urban life in Turkey. This imposition ruins the established social networks which are very important to survive in a large metropolitan city like Istanbul. Ruined social relations do not only create emotional stress on inhabitants but also to loose the solidarity/support mechanism may have impact on financial situation of the housholds. Loosing its job or divorce is not rare after this kind of urban transformation process.

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Placed Appearances: Narrative, the Space of Appearance, Place

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The space of appearance is defined by the German political thinker Hannah Arendt as a public space, originating in the Athenian polis, where the "I" and the "Other" meet for the possibility of acting politically. This space, in the subjective formulation of some later scholars, is more about citizens "no matter where they happen to be," and less about "the city-state in its physical location," architecture, or urban design. The space of appearance thus conceived is independent of place as the subjective creation of citizens, over against the objectivity of the city. In this study, I argue to the contrary that the space of appearance as a story-telling site achieves place-bound identity through narrativity. My study expands the definition of the space of appearance based on a phenomenological understanding of place as a way that humans feel at home through narrative. I argue that the physical location of the space of appearance is in fact fundamental to its meaning, since place as the setting is part of the narrative.

"We are the children of our landscape."[1]
L. Durrell, *The Alexandria Quartet* (London: Faber and Faber, 1957), 36.

"There's no new land, my friend, no
New sea; for the city will follow you…"[2]
"The City" by Constantine Cavafy, translated by Lawrence Durrell

Introduction

"Wherever you go," the Greek statesman Pericles once told his fellow Athenians at a public funeral oration, "you will be a *polis*."[3] This declaration is traditionally interpreted as meaning that the citizen is the soul of the city.[4] Consequently, the city as a public realm – as "the space of appearance" – is reduced to mere background or a "static backdrop to action and experience."[5] In this regard, *the space of appearance* is more about citizens "no matter where they happen to be"[6] and less about "the city-state in its physical location,"[7] architecture,

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1. L. Durrell, *The Alexandria Quartet* (London: Faber and Faber, 1957), 36.

2. Ibid, 201.

3. H. Arendt, *The Human Condition* (Chicago: University of Chicago Press, 1958), 198.

4. See J. Kristeva, *Hannah Arendt: Life is a Narrative* (trans.) Frank Collins (Toronto: University of Toronto Press, 2001), 14; P. Fuss, "Hannah Arendt's Conception of Political Community," in *Hannah Arendt: The Recovery of the Public World* (ed.) Melvyn Hill. New York: St. Martin's Press, 1979. Arendt, *The Human Condition*, 1958, 198.

5. J. Malpas, *Place and Experience, a Philosophical Topography* (New York: Cambridge University Press, 1999), 170.

6. Arendt, *The Human Condition*, 1958, 198.

or urban design. *The space of appearance* as a public space where the "I" and the "Other" meet for the possibility of acting politically through action and speech[8] thus conceived is independent of place. The German political thinker Hannah Arendt put it this way:

> The *polis* [*space of appearance*,][9] properly speaking, is not the city-state in its physical location; it is the organization of the people as it arises out of acting and speaking together, and its true space lies between people living together for this purpose, no matter where they happen to be. "Wherever you go, you will be a *polis*": these famous words became not merely the watchword of Greek colonization, they expressed the conviction that action and speech create a space between the participants which can find its proper location almost any time and anywhere.[10]

From this point of view, *the space of appearance* is in fact placeless, as the subjective creation of citizens over against the objectivity of the city. In this study, I argue to the contrary that *the space of appearance* depends on place, and place-bound identity achieved through *narrativity*. The conception of *narrativity* for Hannah Arendt is about what citizens do in terms of action (making things happen) and speech (the language of story and poetry) in *the space of appearance*. As Julia Kristeva says of this Arendtian *narrativity*, it encompasses "the destinies of life, narrative, and politics; narrative conditions the durability and the immortality of the work of art; but it also accompanies as historical narrative, the life of the *polis.*"[11] In line with Kristeva's Arendtian definition, life as *narrative*, I see *narrative* as stories or explanations that people use to define the way they experience their life and the world. In simple words, narratives say "what happens."[12] When I talk about *narrativity* I am also talking about the way experience of the world communicated through language (speech) distinguishes *narrative* from non-narrative.[13] Language (speech) is one of the main tools for people to share their experience with each other. My paper investigates the relationships between such concepts of *narrativity* and place on the one hand and *the space of appearance* in an urban context on the other, building upon Arendt's phenomenological/political reading of public places.

Phenomenological understandings of place and *the space of appearance* are key in this research, as opposed to approaches such as "environmental psychology" or investigations of place as a "social construct." In the environmental psychology

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7. Ibid.

8. Ibid, 199.

9. For Arendt, *polis* and *the space of appearance* are overlapping concepts and can even be interchangeable. In other words, *the space of appearance* – apart being a universal topic – is the core of the *polis*, the public places such as *Agora* and *Pnyx*. I use these terms in a similar manner, but when by *polis* I am referring to *the space of appearance* as well, I will make the equation explicit by writing it as *polis (the space of appearance).*

10. Arendt, *The Human Condition*, 1958, 198.

11. Kristeva, *Hannah Arendt*: *Life is a Narrative*, 2001, 8.

12. Malpas and P. Wake (Eds.), *The Routledge Companion to Critical and Cultural Theory* (London: Routledge/Taylor & Francis Group, 2013), 23.

13. C. Baldick, *The Oxford Dictionary of Literary Terms* (Oxford: Oxford University Press, 2008), 38.

discussed by geographers Yi-Fu Tuan and Edward Relph, for example, place is approached as subjective.[14] It is seen as a form of first-person experience a fundamentally psychological construct. A comparable tendency to see place as a subjective social construct can be found in the work of thinkers like the British geographer David Harvey and the French sociologist Henri Lefebvre.[15] My argument builds instead upon the phenomenological arguments of philosophers Jeff Malpas and Edward Casey that "place is not founded on subjectivity but is rather that on which subjectivity is founded by place."[16] From this point of view, place is a condition of consciousness in perception, given with *narrative.* Primacy belongs to place, rather than to subjectivity. My approach here follows up on Malpas' perspective on "placemaking" as a way humans inhabit the world and feel at home through *narrativity* involving historical events, rituals and personal memories and fictional stories.[17] I argue that the ideas of Malpas and Casey are compatible with Arendt's when it comes to the problem of understanding place in the public and political urban frame.

Good architecture is always about *place* in the sense of a *narrative* event, and aimed at unveiling a space for poetic "dwelling."[18] Architects are therefore mistaken when they evaluate every new environment as a flat neutral space on a computer. This is especially true given that the public places of the world today are experiencing a kind of *crisis of placelessness*, due to lies, racism, and violence – in liberal societies as well as authoritarian states. My approach here contributes to the task of addressing this crisis, by recalling the responsibility of architecture and literature as the unveiling of lived place: a *narrative*, communicative space for citizens to appear and to recognize our fellow humans in all we share, along with all our differences.

For these reasons, the goal of this study is to clarify the meaning and the narrativity of place and *the space of appearance*. In the opening literature review section, I show that the importance of *narrativity* in Arendtian architectural scholarship is unhelpfully neglected. Second, in the *Polis* section, I look at how *the space of appearance* is constituted and can be understood, in the context of the Athenian *polis* as a site of storytelling. Third, in the *Tópos* section, I apply the insights thus gained in presenting my argument that the place-bound identity of *the space of appearance* is achieved through *narrativity*.

14. See E. C. Relph, *Place and Placelessness* (London: Pion, 1976); Y.-F. Tuan, *Space and Place: The Perspective of Experience* (Minneapolis: University of Minnesota Press, 1977).

15. See D. Harvey, *Justice, Nature and the Geography of Difference* (Cambridge, MA: Blackwell, 1996); H. Lefebvre and D. Harvey, *The Production of Space* (trans.) Donald Nicholson-Smith (Oxford: Blackwell Publishing, 1991).

16. Malpas, *Place and Experience, a Philosophical Topography*, 1999, 35.

17. Ibid, 4-5.

18. See A. Pérez-Gómez, "Place is not a Postcard: The Problem of Context in Contemporary Architecture," in *Timely Meditations: Selected Essays on Architecture*. Montreal: Rightangle International, 2016.

Literature Review: Action, Speech, and Architecture

Arendt conceptualizes *the space of appearance* as the structure of a shared material world and a "space in-between."[19] This in-between world is not simply "nature;" it is the human-made architectural world we inhabit.[20] Although architectural scholarship on Arendt's conception of *the space of appearance* has often been of a very high quality (as in the work of British architecture critic Kenneth Frampton, Canadian architecture educator George Baird, and Dutch architecture scholar Hans Teerds), the approach to the public realm always tends to be stylistic, formal, or sociopolitical.[21]

For all of the theorists just mentioned, architecture is mainly about the outcome of human action. Frampton, for example, focuses on defining architecture as action, based on Arendt's definition of "work." He understands architecture as a human work that brings durability into the world and encourages people to engage with the public world.[22] Frampton rarely emphasizes the theme of *the space of appearance* in this work. Baird, on the other hand, works explicitly with Arendt's concept of *the space of appearance* in engaging the architectural debate on public spaces. Baird accordingly acknowledges the importance of human speech (i.e., not action alone) when he writes that action and speech create *the space of appearance*. Although speech might seem less important than action for architectural discourse, this is not true.[23] Baird does not actively investigate speech in his study. In his book *Public Space* (2011), he comes closer to seriously considering issues like speech and theatricality, by studying public spaces through a collection of street photography: heated debate, individuals and crowds, gay rights movements, activist protesting, and political revolutionary actions. Here again, though, speech is subordinated in the end to the visual, in the form of pictures of people talking.[24]

Teerds, like Baird, insists that creating *the space of appearance* should be the ultimate goal of architecture, but Teerds relies more on *narrativity*, and on sharing his own virtual and physical experiences of places with the reader.[25] This narrativity – including notably a moving story of the death of a teenage African American in a gated community – makes his work very convincing.[26] However, *the narrativity* involved is largely limited to method, and Teerds rarely brings it consciously into his discourse about *the space of appearance*. In short, Arendtian

19. Arendt, *The Human Condition*, 1958, 52.

20. Ibid, XII.

21. See K. Frampton, "The Status of Man and the Status of his Objects: a reading of 'The human condition,'" in *Hannah Arendt: The Recovery of the Public World* (ed.) Melvyn A. Hill. New York: St. Martin Press, 1979; G. Baird, *The Space of Public Appearance* (Cambridge, MA: MIT Press, 1995); H. Teerds, *At Home in the World. Architecture, the Public, and the Writings of Hannah Arendt*. PhD Dissertation. (Delft: Delft University, 2017).

22. Frampton, "The Status of Man and the Status of his Objects: a reading of 'The human condition,'" 1979, 40.

23. Baird, *The Space of Appearance*, 1995, 22.

24. See Baird, *Public Space: Cultural/Political Theory; Street Photography, an Interpretation by George Baird* (Amsterdam: SUN Publishers, 2011), 49-50.

25. Teerds, *At Home in the World. Architecture, the Public, and the Writings of Hannah Arendt*, 2017, 606.

26. Ibid, 99.

architectural theorists tend to focus on action to the detriment of speech, in theorizing *the space of appearance*. The architectural importance of *narrative* in public places is therefore wrongly neglected in Arendtian architectural scholarship.

Polis as a Storytelling Site

In *The Human Condition* (1958), Arendt applies a philological approach to defining *the space of appearance*, with reference to the Greek *polis.*[27] She looks back to the idea of the *polis* to locate the origin of public places, and in order to understand the modern crisis of public citizenship.[28] It is noteworthy here that the German philosopher Martin Heidegger suggests that *polis* should be understood not just as "city" or "state," but rather as a "site" in a "political geography."[29] *Polis* is a literally *political* site for telling the history of being, and since history is a form of story, *polis* is a storytelling site.[30] Correspondingly, Arendt defines *polis* as a *narrative* site in terms of its basis in "the organization of the people as it arises out of acting and speaking together."[31] These Arendtian and Heideggerian definitions can be combined to identify *polis* as a site where the story of action needs to be told. In Kristeva's terms, for example, the Arendtian *polis* is an organizational creation of memory.[32] Kristeva identifies *polis* as a place that preserves stories, by insisting on Arendt's interpretation of Pericles' Funeral Oration.[33] Arendt claims that *polis* preserves the story of the citizen/hero, so that "those who forced every sea and land to become the scene of their daring have no need of either Homer nor anyone else who knows how to turn words."[34] *Polis* itself is enough to preserve the heroic story. The Arendtian *polis* memorializes and monumentalizes through *narrative*, recalling two of Aristotle's greatest insights: first, that a human is a *polis*-living animal; and second, that a human is a speaking animal.[35] Speaking-as-narrating and *polis*-living are from this point of view interdependent. In this regard, the Aristotelian *polis* and the Arendtian *polis* evoke a *narrative* site for human *being.*[36]

The *narrativity* of *the space of appearance* emerges in the centrality of citizens' action and speech. Arendt bases her understanding of action on Aristotle's *Poetics* (335 BC), which observes that we understand characters in stories through

27. Arendt, *The Human Condition*, 1958, 14.

28. S. Dossa, *The Public Realm and the Public Self: The Political Theory of Hannah Arendt* (Waterloo: Wilfrid Laurier University Press, 2006), 62.

29. S. Elden, "Rethinking the *Polis* Implications of Heidegger's Questioning the Political," in *Political Geography* 19 (2000), 407.

30. Ibid, 411.

31. Arendt, *The Human Condition*, 1958, 198.

32. Kristeva, *Hannah Arendt: Life is a Narrative*, 2001, 16.

33. Ibid, 26.

34. Arendt, *The Human Condition*, 1958, 197-198.

35. Aristotle and P. Simpson, *The Politics of Aristotle* (Chapel Hill: University of North Carolina Press, 1997), 2-3.

36. N. McAfee, "Bearing Witness in the Polis: Kristeva, Arendt, and the Space of Appearance," in *Revolt, Affect, Collectivity: The Unstable Boundaries of Kristeva's Polis* (eds.) T. Chanter and E. Płonowska Ziarek. Albany: State University of New York Press, 2005, 118.

their actions.[37] When Kristeva comments on Arendtian action and speech, she therefore emphasizes citizens' performed speech as their action in public.[38] Kristeva understands Arendtian public space as the product of performed action and speech, and a collective diary – a kind of storytelling: a *narrative* site.[39] George Kateb, professor of politics, likewise insists on action and speech as important storytelling and performative aspects of Arendtian public space. As he says, without humans there are no stories; we are our stories, as shaped in public spaces.[40] American philosopher Christopher P. Long also examines Arendtian public space as a public site for transforming time into history/story (memory of action).[41] In summary, then, the narrativity of *the Arendtian space of appearance* has already been recognized in the relevant literature.

From a thoroughgoingly Arendtian point of view, the *narrativity* of the space of appearance is related to space understood as the space in- between things and people. As professor of aesthetics Cecilia Sjöholm cautions, Arendt's notion of *narrative* should not be mistaken for mere *plot*, i.e., a sequence of meaningful events. It is emphatically spatial.[42] On the spatial *narrativity* of the *space of appearance*, Arendt herself writes:

> Action and speech go on between men, as they are directed toward them, and they retain their agent-revealing capacity even if their content is exclusively "objective," concerned with the matters of the world of things in which men move, which physically lies between them and out of which arise their specific, objective, worldly interests.[43]

Arendt argues that narrativity connects the in-between of things, objects, architecture, and artifacts in the form of a web of stories. The picture is similar to Paul Ricoeur's claim that *narrativity* is essential in connecting things within a given temporal context, in order to give meaning to those elements.[44] Michel de Certeau also discusses the relationship between *narrative* and movement in space in this way: "To narrate is to go through; all stories are a travel report, a spatial practice."[45] The narrated story, according to De Certeau, is about geographies of action, and is not content to merely recount the action; it spatially *performs* it within the web of its elements.[46] For Arendt, this web of elements is where stories

37. Kristeva, *Hannah Arendt: Life is a Narrative*, 2001, 38.

38. Ibid.

39. Ibid, 16.

40. G. Kateb, *Hannah Arendt. Routledge Critical Thinkers* (London: Routledge, 2009), 78.

41. C. P. Long, "A Fissure in the Distinction: Hannah Arendt, the Family and the Public/ Private Dichotomy," *Philosophy and Social Criticism* 24, no. 5 (1998): 89.

42. C. Sjöholm, *Doing Aesthetics with Arendt: How to See Things* (New York: Columbia University Press, 2016), 61.

43. Arendt, *The Human Condition*, 1958, 182.

44. P. Ricœur, "Architecture and Narrativity," (trans.) Eileen Brennan, Robbie Carney and Samuel Lelièvre, *Études Ricoeuriennes/Ricoeur Studies* 7, no. 2 (2016): 34.

45. M. De Certeau. *The Practice of Everyday Life* (Berkeley: University of California Press, 1988), 115.

46. Ibid.

find the power to make a citizen appear.[47] One of the best examples of such an Arendtian citizen dwelling in the in-between of things in urban public spaces is the figure of Socrates.[48]

The Socratic performance of philosophy happens in the world of things, and the *polis* (i.e., *the space of appearance* as found in the *agora*) provides the stage of public engagement upon which he moves, acts, and makes contact with the world in-between. Socrates' action and speech in public spaces leads to the distinguished self, the heroic act and life story – including his willingness to die a tragic death. In short, Socrates embodies the movement of action and speech in public space. By contrast, *the space of appearance* in the subjective formulation of some scholars has no objective spatial ground. It is placeless. For instance, Kristeva conceives of *the space of appearance* as a collective psychic space.[49] The American philosopher Peter Fuss explicates Hannah Arendt's *space of appearance* and its significance in a similar way, as what he calls the space of true freedom, concluding that *the space of appearance* is therefore placeless.[50] These two interpretations are based on Arendt's interpretation of the line "Wherever you go, you will be a *polis*," insisting upon Arendt's assertion that the space of appearance is totally unrelated to "the city-state in its physical location,"[51] and works the same way "no matter where [citizens] happen to be."[52] However, for other Arendtian scholars such as Hans Teerds and Turkish-American philosopher Seyla Benhabib, *the space of appearance* is also an architectural topic, and therefore objective.[53] According to Benhabib, *the space of appearance* must be architectural given that Arendt constantly refers to space and place.[54] For Teerds, too, *the space of appearance* is an objective "tangible space."[55]

As Benhabib's formulation indicates, these non-subjective interpretations of *the space of appearance* come ultimately from Arendt herself. For Arendt, the subjectivity/objectivity of the space of appearance is open-ended. She writes that this space happens in the world-of-things and in the man-made world that simultaneously connects and separates people, as a table does (e.g. an object, architecture, a physical place). *The space of appearance* does indeed sound quite subjective when she writes that "not Athens, but the Athenians were the polis."[56] Then again, in the footnote she refers to the Athenians as *the people of the territory of the city of Athens*. Here, at least, she puts the focus on people in place; Athenians are people who are meaningfully placed in Athens. In my own view, Arendt's understanding can for such reasons best be described as "intersubjective." It is

47. Arendt, *The Human Condition*, 1958, 148.

48. See Kristeva, *Hannah Arendt: Life is a Narrative*, 2001, 42.

49. Ibid, 16.

50. Fuss, "Hannah Arendt's Conception of Political Community," 1979, 122-123.

51. Arendt, *The Human Condition*, 198.

52. Ibid.

53. Teerds, "At Home in the World," 493.

54. Center for Contemporary Critical Thought, "Hannah Arendt, *The Human Condition*," YouTube video, 2:15:40, January 30, 2020. https://www.youtube.com/watch?v=4FG8Lynp6Ss&t=4743s

55. Teerds, *At Home in the World. Architecture, the Public, and the Writings of Hannah Arendt*, 2017, 493.

56. Arendt, *The Human Condition*, 1958, 195.

based on the interrelation between people and place, since the core of Arendtian philosophy is not in the end metaphysical. In its commitment to think both with and beyond Arendt, my study therefore expands *the space of appearance* based on place, and offers a corrective to the conventional readings of her writing on this topic. In my critical exegesis, which is guided by a phenomenological understanding of place, the physical location of *the space of appearance* is fundamental. From this point of view, when a given space is associated with *narratives* such as historical events, rituals, and personal memories and fictional stories, it emerges as a place. *Narrative* is indivisible from its location, and place as the setting is an essential part of the story.

Tópos[57]: The Narrativity of Place

It should be clear by now that this study is in line with the definition of *place* as a space which becomes part of a *narrative*, and has an intersubjective link with people.[58] Yi-Fu Tuan highlights, for example, the importance of human speech in the creation of place: place is a function of language's metaphorical and *narrative* abilities.[59] From this point of view, place is not just the outcome of material transformations. Place-making can happen by naming a landscape, or by associating it with an origin story, since "naming is the power to call something into being."[60] Malpas argues similarly for the importance of language and *narrative* in place-making, by concentrating more on *narrative* as grounded in place.[61] *Narrative* as human temporal experience, in his view, is associated with the phenomenon of lived temporality and the qualitative sense of experiencing a place.[62] For this reason, human memory embodies place as *narrative*, and place is a space made humanized and humanizing through *narrative*.[63] British archaeologist Christopher Tilley similarly stresses the narrativity of a place: "Narrative is a means of understanding and describing the world in relation to agency."[64] In other words, *narrative* is a means for linking actions and events, locales and landscapes. In simplest terms, place and people reflect each other through *narratives* and create an intersubjective connection. In Heidegger's terms, the "*Dasein*" which refers to the experience of *being* that is peculiar to *human beings* is based on place. For *Dasein*, to "be" is to dwell – to be placed.[65] Place for Heidegger is the kind of

57. *Tópos* as a Greek word stands for place the way Aristotle or Malpas define it.

58. In all these theories the idea of engagement with place is through language and narrative, and not based on biology or blood.

59. Y.-F. Tuan, "Language and the Making of Place: A Narrative-Descriptive Approach," *Annals of the Association of American Geographers* 81, no. 4 (1991): 684.

60. Ibid, 687.

61. Malpas, *Place and Experience, a Philosophical Topography*, 1999, 10.

62. Ibid, 11.

63. Ibid, 2.

64. C. Tilley, *A Phenomenology of Landscape: Places, Paths and Monuments* (London: Bloomsbury, 1994), 32.

65. Edward Casey, *The Fate of Place: A Philosophical History* (Berkeley: University of California Press, 1998), 291.

"being" in which the characteristically human is grounded.[66] Like Heidegger, Edward Casey argues that place shapes the self and the self, shapes the place.[67] For him, place is indivisible from its occupants; place in this sense merges with the things in it, rather than surrounding them.[68] For this reason, Casey insists that place is a comprehensive, given event. I would add that *narrative* is not separate from its place and its people. All are givens of an event. If *the space of appearance* is a space that emerges with *narrativity*, then it is a place – an indivisible event.

The way the Acropolis Hill was made a meaningful place through *narrative* provides an illustrative example here. Poseidon the god of the sea challenged the goddess Athena to a contest over the *polis*. The citizens were to judge and vote. They all went up to the Acropolis across from the Parthenon to present their gifts to the city. Athena won with her olive tree, as the olive later became fundamental to Athenian economy and life. She became the patron of the *polis*, named after her as Athens.[69] The Acropolis is therefore part of the story of Athena and Poseidon's contest, as much as the story of Athena and Poseidon's contest is part of the Acropolis. Place is therefore part of *the narrative*, and *narrative* is part of the place.

Conclusions

My goal here was to clarify the meaning of place and the *space of appearance*, and to highlight their *narrativity*. I theorized place using mainly the writings of Casey and Malpas, building on Arendt's idea of *the space of appearance* (and stressing the *narrativity*). To support this approach, I looked first in the *Polis* section at how *the space of appearance* is shaped and understood in the context of the Athenian *polis* as a storytelling site for political beings. I argued that *the space of appearance* is a place, and that place-bound identity happens through *narrativity*. Secondly, in my *Tópos* section, I concentrated on the definition of place as a space that co-emerges with *narrative*, indivisible from the things and people who occupy it. I concluded that when *the space of appearance* has a story to tell it is inseparable from place. For this reason, what the world needs (and what architects are well-placed to provide) is an Arendtian "man-made" narrative public space within which we can appear to each other.

66. Ibid.

67. E. Casey, "Between Geography and Philosophy: What Does It Mean to Be in the Place-World?" *Annals of the Association of American Geographers* 91, no. 4 (2001): 684.

68. Ibid, 116.

69. W. Burkert, *Greek Religion* (Cambridge: Harvard University Press, 1985), 139.

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