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Articles

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ATINER is a *World Non-Profit Association* of Academics and Researchers based in Athens. ATINER is an independent **Association** with a **Mission** to become a forum where Academics and Researchers from all over the world can meet in Athens, exchange ideas on their research and discuss future developments in their disciplines, **as well as engage with professionals from other fields**. Athens was chosen because of its long history of academic gatherings, which go back thousands of years to *Plato's Academy* and *Aristotle's Lyceum.* Both these historic places are within walking distance from ATINER's downtown offices. Since antiquity, Athens was an open city. In the words of Pericles, **Athens"...***is open to the world, we never expel a foreigner from learning or seeing". (*"Pericles' Funeral Oration", in Thucydides, *The History of the Peloponnesian War). * It is ATINER's **mission** to revive the glory of Ancient Athens by inviting the World Academic Community to the city, to learn from each other in an environment of freedom and respect for other people's opinions and beliefs. After all, the free expression of one's opinion formed the basis for the development of democracy, and Athens was its cradle. As it turned out, the Golden Age of Athens was in fact, the Golden Age of the Western Civilization. *Education* and *(Re)searching* for the 'truth' are the pillars of any free (democratic) society. This is the reason why Education and *Research* are the two core words in ATINER's name.

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Before you submit, please make sure your paper meets some basic academic standards, which include proper English. Some articles will be selected from the numerous papers that have been presented at the various annual international academic conferences organized by the different divisions and units of the Athens Institute for Education and Research.

The plethora of papers presented every year will enable the editorial board of each journal to select the best ones, and in so doing, to produce a quality academic journal. In addition to papers presented, ATINER encourages the independent submission of papers to be evaluated for publication.

The current issue of the Athens Journal of Architecture (AJA) is the first issue of the fifth volume (2019). The reader will notice some changes compared with the previous issues, which I hope is an improvement.

Gregory T. Papanikos, President
Athens Institute for Education and Research

Athens Institute for Education and Research
A World Association of Academics and Researchers

9th Annual International Conference on Architecture
8-11 July 2019, Athens, Greece

The Architecture Unit of ATINER, will hold its **9th Annual International Conference on Architecture, 8-11 July 2019, Athens, Greece** sponsored by the Athens Journal of Architecture. The aim of the conference is to bring together academics and researchers from all areas of Architecture. You may participate as stream organizer, presenter of one paper, chair a session or observer. Please submit a proposal using the form available (https://www.atiner.gr/2019/FORM-ARC.doc).

Academic Member Responsible for the Conference

- **Dr. Nicholas N. Patricios,** Vice President of Strategic Planning & Analysis, ATINER and Professor & Dean Emeritus, School of Architecture, University of Miami, USA.

Important Dates

- Abstract Submission: **11 March 2019**
- Acceptance of Abstract: 4 Weeks after Submission
- Submission of Paper: **17 June 2019**

Social and Educational Program

The Social Program Emphasizes the Educational Aspect of the Academic Meetings of Atiner.
- Greek Night Entertainment (This is the official dinner of the conference)
- Athens Sightseeing: Old and New-An Educational Urban Walk
- Social Dinner
- Mycenae Visit
- Exploration of the Aegean Islands
- Delphi Visit
- Ancient Corinth and Cape Sounion

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Athens Institute for Education and Research
A World Association of Academics and Researchers

9th Annual International Conference on Urban Studies & Planning, 3-6 June 2019, Athens, Greece

The Architecture Unit in collaboration with the Social Sciences Division of the ATINER will organize its **9th Annual International Conference on Urban Studies & Planning, 3-6 June 2019, Athens, Greece** sponsored by the Athens Journal of Architecture. The aim of the conference is to bring together academics and researchers from all areas of social sciences such as urban sociology, urban geography, urban design, urban planning, architecture, etc. You may participate as stream leader, presenter of one paper, chair of a session or observer. Please submit a proposal using the form available (https://www.atiner.gr/2019/FORM-PLA.doc).

Important Dates
- Abstract Submission: **4 February 2019**
- Acceptance of Abstract: 4 Weeks after Submission
- Submission of Paper: **6 May 2019**

Academic Members Responsible for the Conference
- **Dr. Nicholas N. Patricios,** Vice President of Strategic Planning & Analysis, ATINER and Professor & Dean Emeritus, School of Architecture, University of Miami, USA.
- **Dr. Virginia Sisiopiku**, Head, Transportation Engineering Unit, ATINER, & Associate Professor, The University of Alabama at Birmingham, USA.
- **Dr. Jesus J. Lara**, Academic Member, ATINER & Associate Professor, The Ohio State University, USA.

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Tools for a Better Liveability in Neighbourhoods: The "Environmental Island" Design Methodology and the Citizen Engagement Process

By Lucia Martincigh[*]
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The constant increase of private vehicular traffic and its arrogant pervasiveness worsened the urban environment liveability in many Italian cities and destroy more and more their true essence. Only in the last thirty-year period, in Europe, there was a marked acceleration in scientific research and policymaking for defining and experimenting traffic calming strategies and measures aimed at improving the level of safety and accessibility, creating more shared spaces and increasing quality of life, especially in neighbourhoods. Lagging behind other European countries, also Italy started to relate the slow speed principle to the liveable district notion; thanks to the New Traffic Code, the concept of «Environmental Island» was introduced: a «single urban zone delimited by the main road network, aimed at restoring urban spaces' liveability». The «Environmental Island» can then be meant as a possibility not only for reorganizing vehicular mobility but also for upgrading residential urban areas and satisfying dwellers' daily life needs. The analysis of limits and possibilities of application demonstrated that the used methodology could take from both scientific and operative viewpoints to interesting results, defining actions' location, priority and range and providing administrations with advice on the opportunity to act. It is indeed the tight interlace between design process, involving technicians, and public consultation process, involving citizens and local administrations, that can achieve success. In order to ensure the effectiveness of this work, a widespread awareness of the need of changing rooted habits, regarding urban space use, has to be developed; this becomes then the best occasion to implement a type of collective education that leads to a more responsible behaviour from the overall sustainability viewpoint. For years, the topic here presented was faced, also featuring pilot studies in Rome, and now is going to become an applied research; indeed, thanks to the collaboration with various stakeholders, a participation process, aimed at defining the implementation of an Environmental Island in one of the oldest and most central districts of Roma: Rione Monti, is currently underway.

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Introduction

Rome, as every western metropolis, is affected by various types of problems which cause a decrease of the urban environment liveability. First of all, the ever growing increase of air and surface temperature, due to the combination of construction materials with great solar radiation absorption and sealed soils with less evaporative cooling, but also to the "urban canyon effect" and waste heat from various sources, causes an overheating of the urban areas, which are up to 6 °C hotter than the surrounding rural areas: this is the well-known Urban Heat Island phenomenon.[1] Moreover, a huge vehicle flow, with about 1 million 800 thousand vehicles (668.4 cars and 148.2 motorcycles per thousand inhabitants,[2]) the high speed and traffic congestion not only increase the risk of accidents but also produce high levels of air and noise pollution, with considerable quantity of pollutants as a direct consequence: in 2016[3] the concentration of nitrogen dioxide had an average value of 67 μg/m^3 and the amount of PM10 was 30 μg/m^3, both to be compared with a threshold of 40.[4] The high presence of pollutants, combined with the high temperature, contributes to worsen the situation and represents a threat for people's health and for the ecosystem. Moreover, because of the disproportionate demand for street parking, motorized mobility has taken possession of most public spaces, reducing slow mobility and the manifold activities that traditionally took place in the public realm, hiding the urban landscape and making the urban spaces unsuitable for other uses. In addition, the widespread arrogance of drivers, lacking of culture and civic sense, endangers the safety of pedestrians and cyclists and their right to move at ease.

A second aspect characterizes the city of Rome, differentiating it from the other metropolises and making its urban environment harder to live in. Besides a large number of people commuting to work from the suburbs and farther origins, huge masses of people crowd every day the streets, for two main reasons: on the one hand, the presence of various government institutions like ministries attracts workers, public officials and also people demonstrating and protesting; on the other hand, the presence of a lot of historical and archaeological attractions, but above all the Vatican and the enormous amount of churches, attract hordes of tourists which pour out into the public spaces of the city, straining the urban liveability once more. Not to mention the Universal Jubilees and other religious, cultural and sport events that unregularly stress the urban structure.[5]

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1. H. Akbari, C. Cartalis, D. Kolokotsa, A. Muscio, A. Pisello, F. Rossi, M. Santamouuris, A. Synnefa, N. H. Wong, M. Zinzi, "Local climate change and urban heat island mitigation techniques - The state of the art," *Journal of Civil Engineering and Management* (January 2016).

2. ISTAT, 2014.

3. http://www.arpalazio.net/main/aria/sci/basedati/stime_comunali/stime_comunali.php.

4. Both limits are prescribed by Legislative Decree 155/2010.

5. L. Martincigh, R. Bizzotto, R. Seghetti, M. Di Guida, G. Perrucci, "Keeping the city liveable for inhabitants and efficient for tourists: the pilgrimage routes," in *Book of Proceedings of the 3rd International Academic Conference on PLACES & TECHNOLOGIES 2016: Keeping up with technologies to create cognitive city by highlighting its safety, sustainability, efficiency, imeagebility and liveability* (ed.) E. Vaništa Lazarević, A. Krstić-Furundžić, A. Đukić and M. Vukmirović (Belgrado: Università di Belgrado, Facoltà di Architettura, 2016), 347-354.

The crowds of people in the public space have significant fallouts on mobility in a city like Rome, where private means still prevails over public transportation and slow mobility. The public transport system is not able to meet the mobility needs of citizens and large flows of visitors and its efficiency is even diminished by the still reigning car culture and consequent huge private traffic flow. The cycling paths cannot offer an alternative not being yet a real network. It is clear then that the reorganization of mobility should become a priority issue on the town municipality agenda. Rome needs a cultural change and intervention tools aimed at increasing its liveability levels in order to improve its sustainability, in terms of both environment, challenging the UHI (Urban Heat Island) effect, and society, defending its most vulnerable parts, as children, elders and people with reduced mobility (PMR). To summarize, this indispensable change in the mobility system towards the sustainability issues, has the aim of saving energy and territory, decreasing pollution and dangers,[6] as well as promoting a fairer, healthier and more respectful common public space at the same time.[7]

Strategies for Improving Liveability: The European State of the Art

Since the 1990s, research activities supported by European Community in various Framework Programs for Research and Development aimed at defining and coordinating strategies and policies, methodologies and measures that combined urban design with mobility and the different aspects of sustainability in order to improve both people's quality of life and the urban environment. This is not the place to outline a complete state of the art but, for the matter at hand, it can be well-timed to refer to those aspects that constituted, in some way or another, the background of the slant of the work presented here.

Some of these research projects, developing design tools and assessment methodologies to promote sustainable mobility by the integration of transport and traffic planning and land use, were organized in the LUTR (Land Use and Transport Research) cluster.[8] In particular, some COST (Cooperation in Science and Technology) Actions focused on vulnerable road users proposed design methods and actions to improve the quality of the urban environment and increase safety.[9] The aim was to understand pedestrians' quality needs and increase the performances that urban spaces have to offer them in order to promote pedestrian mobility: accessibility, safety, comfort, intermodality and attractiveness.[10] OECD

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6. EPA, U. S. Environmental Protection Agency, *Reducing Urban Heat Islands: Compendium of Strategies, Urban Heat Island Basics.* 2017. https://bit.ly/2DnkMpB. [Accessed 27 April 2018].

7. C. Socco, *Il Piano Urbano di Mobilità Sostenibile. Linee d'azione, indicatori e monitoraggio* (Firenze: Alinea editrice, 2009).

8. S. Marshall and D. Banister, *Land Use and Transport. European Research towards Integrated policies* (Oxford: Elsevier, 2007).

9. D. Fleury, *A city for pedestrians: policy making and implementation. Final Report of Cost Action C6* (Luxembourg: Office for Official Publications of the European Communities, 2002).

10. H. Methorst, *Pedestrians' Quality Needs. Final Report of Cost Action C358* (Luxembourg: Office for Official Publications of the European Communities, 2010).

publications on city vulnerable road users, and in particular on safety and accessibility of PRM, offer important data and viewpoints on the topic.[11]

Most European countries carried out national road-safety programs, funded studies, campaigns and experimentations and started specific national research centres, such as SWOV (Institute for Road Safety Research, NL), TRL (Transport Research Laboratory, UK), BASt (Federal Highway Research Institute, G), INRETS (National Institute for Transport and Safety Research, F) and CERTU (Center for Studies on Networks, Transport, Town Planning and Public Construction, F), VTI (National Road and Transport Research Institute, S), VTT (Technical Research Center of Finland, FI) etc.[12] This commitment, both cultural and economic, enables the sequence: research, implementation, validation and thence the eventual setting up. The aim is to identify the most effective strategies, policies and interventions in order to inform regulations containing prescriptions, criteria and technical indications.

Manuals and guiding lines for street design consider the negative repercussions of vehicular traffic on the quality of both urban spaces and human activities. Analyses are carried out on transport social costs, considering all of them: monetary, energetic, spatial, ecological, acoustic, injuries and fatalities related.[13]

Since 1988, the European Charter of Pedestrians' Rights lay the foundations for a traffic calming policy. Most of the European countries have adopted this approach to reduce speed, reorganize and upgrade urban public spaces, but each country is characterized by specific aspects. Many Dutch municipalities were among the first to adopt road safety plans, they implemented "Zone 30" and experimented traffic calming measures such as "new style" roundabouts.[14] In France, the well-known program "Ville plus sûre, quartiers sans accidents" was launched in 1984 with the goal of integrating motorized traffic into urban environments, with due regard to local participation and awareness. The program helped local communities to devise, implement and assess an innovative street design to improve safety and quality of life at the same time. In particular, the street landscape with its perspectives was used to modify users' perception and thence behaviours. The results showed not only a drop in accidents and a decrease in speeds, but also notable effects on social and economic local dynamics.[15] In Great Britain the DETR (Department of the Environment, Transport and the Regions) fixed the goal of reducing traffic accidents by using specific safety

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11. OCDE, *Sécurité des piétons* (Paris, 1970); OECD, *Circulation routière: la sécurité des usagers vulnérables* (Paris, 2000); OECD, *Piétons: Sécurité, espace urbain et santé* (Paris, 2012).

12. M. Pezzagno, "Strade urbane in Europa: interventi a favore della sicurezza nei centri urbani residenziali," *Quaderni di sintesi Series*, no. 55 (Brescia: ASM - Azienda servizi municipalizzati di Brescia, 2000).

13. H. Monheim and G. Frankenreiter, *Town and infrastructure planning for safety and urban quality for pedestrians – State-of-the-art report* (Luxembourg: Office for Official Publications of the European Communities, 2000).

14. A. Vis, A. Dijksstra and M. Slop, "Safety effects of 30 Km/h zones in the Netherlands," in *Accident Analysis and prevention*, no. 24 (Den Haag: SWOV- Institute for Road Safety research, 1992): 75-86.

15. CERTU, *Ville plus sûre, quartiers, sans accidents. Réalisations. Évaluations* (Lyon: Ministère de l'Equipement, des Transports et de Tourisme, 1994).

measures on pedestrian crossings (besides zebra, central refuge, pelican and puffin), by promoting safe routes to school and by carrying out a pilot project: "Urban safety project" using an approach called "area-wide safety management". Finally, DETR issued regulations to design 20mph residential zones, defining the use of traffic calming measures involving changes in street horizontal and vertical alignment (dimension, location etc.) and gates signalizing the entrance to these zones,[16] and has made a three year monitor project for nine "Home zones" "in which the road space is shared between motor vehicles and other road users, with the needs of pedestrians and cyclists coming first."[17] In Germany a particular attention is given to the most vulnerable users (pedestrians, cyclists, children and older people) especially in residential areas; in six case studies, traffic calming measures were applied and various aspects were analysed such as traffic planning, urban development, effects on the environment and social interests. Traffic calming zones (Tempo 30 Zone) featuring specific entrance and exit signs are widely used nowadays in residential areas. In 1997, the Swedish Government passed a bill on "Vision Zero and the Traffic-Safe Environment" with the goal that no one would be killed or seriously injured within the road transport system and allocated congruent funding. The attention is "on how to make streets more traffic-safe and at the same time eco-friendly, negotiable, pleasant and aesthetically appealing."[18] Suitable indications were presented in a specific handbook: "Calm streets!", that was aimed to assist local authorities in the planning process to remodel streets contemplating and integrating quality demands and social considerations, environmental improvements and traffic calming countermeasures. This publication gave a new impulse to the traffic calming philosophy in Sweden.

Thanks to all these activities it can be said that a great experience was reached for dealing with problems and proposing possible solutions. In the years, the attention first focused on safety moved to a broader, more systematic view.[19]

A Short Outline of the Situation in Italy

In line with the EU guidelines, even if with some delay, Italian government issued the National Plan for Road Safety in order to establish an innovative practice and to give some support to pilot projects, both of "hard" and "soft" type.[20] This plan, updated in 2014, aims at the European target of 50% fatality reduction by 2020 and underlines, among others, two priority areas of action: urban areas, and vulnerable road users and promotes the implementation of

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16. DETR, *Safer by design. A guide for road safety engineering* (London, 1994).
17. DETR, *New directions in speed management. A Review of Policy* (London, 2000).
18. V. Brandberg et al., *Calm Streets! A planning process for safer, more eco-friendly, pleasant and attractive streets in urban areas* (Stockholm: The Swedish association of Local Authorities, 1999).
19. J. Rychlewski, "Street network design for a sustainable mobility system," *Transportation Research Procedia*, no. 14 (2016): 528-537.
20. For "hard" pilot projects, we mean actions improving infrastructures, for "soft" pilot projects, we mean actions affecting people's behaviour and changing cultural attitudes by awareness raising activities.

continuous, safe and comfortable pedestrian networks in urban areas, through the control of vehicular traffic and the use of innovative traffic calming measures. Other legislative tools, with different time-frames and levels of application, govern urban mobility and public transport in urban areas with the aim to increase safety, reduce traffic congestion and energy consumptions, abate atmospheric and acoustic pollution, decrease private traffic in favour of collective transport systems, favour alternative transport means and modes.[21] Among them, the one that is more in line with the goals of the National Plan for Road Safety and more interesting for the matter at hand is the Urban Traffic Plan, prescribed by the New Traffic Code.[22] This tool aims indeed to reorganize urban mobility at local level, classifying traffic components by the use of a scale of values that puts the pedestrians' requirements in the first place, followed by those of cyclists and collective public transport, and leaves those of parking at the end. It considers various strategies and technical measures to increase the quality of the environment for pedestrians and to guarantee them fluent, continuous and safe pedestrian networks, traffic limited zones, pedestrian traffic privileged zones and pedestrian zones.[23]

Since 1970s, one of the aspects that is specific of the Italian tradition is the process of pedestrianization of historical areas. It is interesting to notice that this choice was dictated by a primary concern of national policies and strategies: the reduction of pollution from vehicular traffic. This is what has driven most of laws or actions, such as the institution of the "mobility manager" role or the "day without cars" event, and not so much the active promotion of sustainable mobility. The data collected on Italians' daily life do not focus on factors influencing car users' modal choice and behaviour and therefore are not sufficient to identify the factors that could encourage the traveller to shift towards public transport or other smart and green modes of transport, such as cycling and walking.[24]

Even if the promotion of pedestrian mobility is not a main target in Italy, there are laws issued to face other problems that have positive effects also on the walking environment. In particular, this is the case of an innovative law[25] issued for improving accessibility and use of the urban environment for people with reduced mobility.[26]

Through the participation to EC research activities or networks, such as Car Free Cities or Healthy Cities, knowledge was acquired; unluckily though, there is still a gap between theory and praxis, research and application, legislation and implementation. The reason is that most of the country is still strongly anchored by the car culture. The choices of intervention concern more temporary measures, such as traffic restrictions, than structural interventions or transport means, such as

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21. C. Beguinot, *Urbanistica e mobilità (*Roma: CNR – Consiglio nazionale delle Ricerche, 1999).

22. Legislative Decree 30 April 1992, no. 285 - "Nuovo Codice della Strada", art. 36.

23. M. De Luca and V. Astarita, *I piani urbani del traffico* (Milano: Franco Angeli, 1998).

24. ISTAT, *Aspetti della vita quotidiana 2015. Indagine multiscopo sulle famiglie* (Roma, 2015).

25. Decree Law DPR 503/1996 "Regolamento recante norme per l'eliminazione delle barriere architettoniche negli edifici, spazi e servizi pubblici"

26. F. Vescovo, *Progettare per tutti senza barriere architettoniche* (Rimini: Maggioli, 1997).

electric cars or car sharing, than the promotion of alternative modal choices, sensitization and change in behaviour. Traffic calming policy is not widespread in Italy but in the North-Central Regions, where there are many more implementations than in the other regions.

In Rome, most of the late upgrading of public spaces and in particular of their accessibility was made in relation with the Great Jubilee, in 2000, and for a minor part with the Extraordinary Jubilee of Mercy, in 2015.

In 2015 Rome Town Municipality drew up the General Urban Traffic Plan (PGTU) that considers a framework of systematic actions, shifting gradually from a logic of mere control and enforcement to one that promotes car and bike sharing, mobility management, public transport, pay and display parking, environmental islands, open data and ICT (Information and Communication Technology) in order to help citizens to make virtuous choices.

Technicians usually are more inclined towards innovation than politicians and implementing bodies; citizens are unsatisfied but are not well aware yet of the appropriate solutions and of the need to change their behaviours too. Last April, on the occasion of the 3rd Meeting of the Safer City Street Network, the global traffic safety network for liveable cities, the technical staff of the Mobility Agency of the Town Municipality presented Rome's Sustainable Mobility Plan (PUMS) and Cycle Network Plan.[27] Besides the same topics faced by the PGTU, the PUMS considers slow mobility, accessibility for all and monitoring; its main focus is on people and on the satisfaction of their requirements, achievable by a participative process involving citizens and stakeholders. The "red lines" of the plan are the actions on public transport.

The Tool of the Environmental Island

The specific indications for drawing up Urban Traffic Plans,[28] introduce various possibilities of action, among them: the "Environmental Island" that is applicable in urban residential areas. It is defined as "a single urban zone, delimited by the main road network, aimed at restoring urban spaces' liveability" in which it is possible to consider pedestrians at the core of the mobility planning and give them priority over the other transport modes, reduce private vehicular traffic and control speed in order to improve safety and accessibility, increase pedestrian spaces and their performances with a specific attention to the environmental values. This tool, very innovative for Italy, does not contain though specific indications for its thorough implementation. Studies were carried out to precise more its content and define appropriate criteria. The road hierarchy and the distribution network are defined to a greater extent, since the approach derives

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27. Roma Servizi per la Mobilità, Risorse per Roma, Roma Metropolitane. *Linee guida del piano della Mobilità Sostenibile di Roma Capitale* (Rome, 2017).

28. Ministry of Public Works. "Direttive per la redazione, adozione ed attuazione dei piani urbani per il traffico" – Ordinary Supplement to the Italian Republic Official Gazette no. 146, 24 June 1995.

from Buchanan's Environmental Area,[29] while the achievement of a good level of liveability needs to be examined in greater depth. The pilot projects that are mentioned in this paper have developed the "district unit" approach: an organizing layout devised by modern urbanism that is based first on a system of spatial relations between residences and daily facilities. The "district unit" can be considered as a self-sufficient island because residents do not need to exit it for reaching daily facilities on foot. A city rationally organized is a system of "district units" supported by urban and regional facilities, parks, other infrastructures and industrial areas.[30] It is important then to link closely mobility and urban design, because if the district unit is characterized by environmental quality and liveability, the relation residence-facility can also have a polycentric structure, if appropriate and safe pedestrian and cycle accessibility is guaranteed.

The main criteria that have been applied to identify and define an environmental island (Figure 1) are: the location in an area mainly residential; the road system that is constituted only by local roads; the dimension that is easily walkable (max 500m); the presence of daily facilities; the identification by ideal or actual boundaries; the presence of characteristics that make residents feel a sense of belonging.[31]
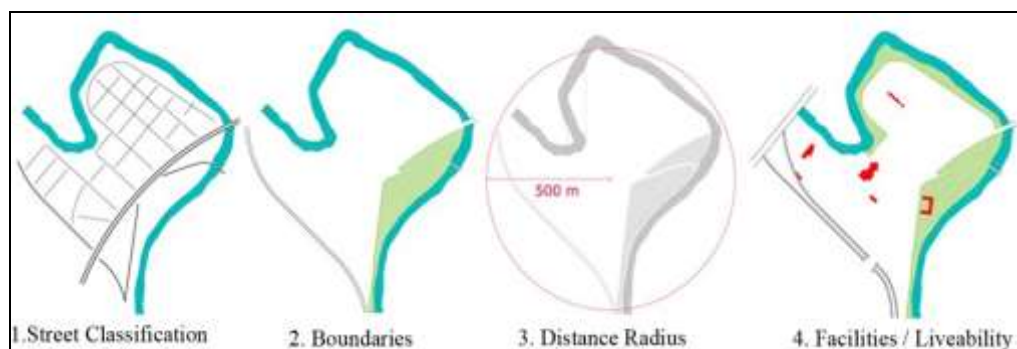
Figure 1. *The Application of the Criteria for Identifying a Possible Environmental Island in the District of "Sacco Pastore", Rome*

The design of the Environmental Area is characterized by specific aspects: it contains all traffic components but privileges pedestrian and cycling mobility; it applies devices to eliminate through traffic and illegal and non-resident parking; it organizes parking facilities for residents, for PMR and for non-residents, but only in a minimum amount; it organizes the traffic with a two-way road corridor, serving a multitude of rooms with one-way roads; it applies the 30km/h speed

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29. C. Buchanan, *Traffic in towns* (Middlesex: Penguin Books Ltd, 1963).

30. OCS, *L'ambito residenziale, la "zona 30" e la normativa italiana. Linee Guida* (Regione Piemonte Trasporti - Assessorato ai Trasporti e Infrastrutture Direzione Trasporti - Settore pianificazione dei trasporti, 2006).

31. A feeling that expresses the strong bond existing between individuals and the place where they live can be said to be a "sense of belonging"; Kevin Lynch explains it as the identification with physical landmarks (symbolic places, urban recognizable elements, etc.) or with values shared by the community (familiarity with the place, historical memory, etc.); D. Lynch, *Progettare la città. La qualità della forma urbana* (Milano: Etaslibri, 1996).

limit and uses traffic calming devices; it designs a continuous pedestrian network, alternating paths and sojourn spaces that are accessible, safe, usable, comfortable and attractive, supported by vehicular mobility; it develops a cycling network that is linked to the main urban one; it locates and designs the intermodal exchange points in an appropriate way; it provides for the delivery of goods with alternative means; it enhances the potentialities of the urban environment and designs self-explaining roads.

This new approach to design aims at achieving, beside liveability for all classes of users, higher levels of local sustainability: environmental compatibility and social equity. The Environmental Island then can be integrated in an Agenda 21 local process.[32] The achievement of these results involves a marked change in the way citizens and specifically drivers use the streets.

The proposal to define an Environmental Island has to be made at the first level of the Urban Traffic Plan. The congruence of this tool needs to be checked with other regional and town planning tools, among the others with the Urban Master Plan, Urban Mobility Plan, Urban Parking Plan and Public Transport Plan. The Environmental Island is then further defined in the Detailed Urban Traffic Plan; at this level the design is subdivided in different parts that consider aspects that are dealt with in other plans too. It is important then to verify its consistency, for example, with the Plan for the Elimination of Architectural Barriers or with the Plan for Urban Accessibility, if existing, or to integrate these contents in its design. It is also necessary to check its congruence with other regional and city plans at environmental level such as: the Plan of Action for Sustainable Energy, Plan for Energy Saving, Plan for Light, Plan for Urban Green, Plan for Acoustic Classification, Regional Integrated Air Plan, Regional Plan for Waste Management. If these plans are not yet drawn up, it is possible to integrate the contents into the Environmental Island design for what is relevant.

The level of design complexity, due to the many analysed topics, different scales, various implicated know-hows and citizens' involvement, takes not only to adopt an analytical and operational methodology, integrating in a synergic way the techniques used to plan mobility and those used to design and improve the quality of pedestrian public spaces, but also various kinds of participation methods, such as questionnaires and interviews, focus groups and workshops, visioning and scenarios building.

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32. Local Agenda 21 is a voluntary consultation process started by a local community with the aim to create local policies and programs that try to achieve sustainable development. It includes the awareness raising, ability strengthening, community participation and partnership development. Local Agenda 21 is specified by the chapter 28 of Agenda 21: a wide action plan of the United Nations regarding sustainable development, which was adopted by 178 governments at the 1992 UN Rio Conference; OCS, *Linee guida zone 30. Linea guida 5. Lineamenti metodologici per i piani di zona 30* (Regione Piemonte - Assessorato ai Trasporti e Infrastrutture Direzione Trasporti - Settore pianificazione dei trasporti, 2007).

The Design Methodology

The methodology applied to identify, define and structure the Environmental Island has been developed and tested in case studies within European and national research, carried out through the years at the Department of Architecture of Roma Tre University. This methodology is based on the requirement/performance approach that is proper of the Architectural Technology sector. It is aimed at investigating the district where the Environmental Island could be potentially created in order to define problems and potentialities, analyse people's requirements, identify the most important actions to take and the best measures to implement. The methodology is developed in various phases; the first are devoted to various analytical aspects. Below it is reported a flow diagram to clarify the whole process and how its different steps relate to each other, from input to output (Figure 2).
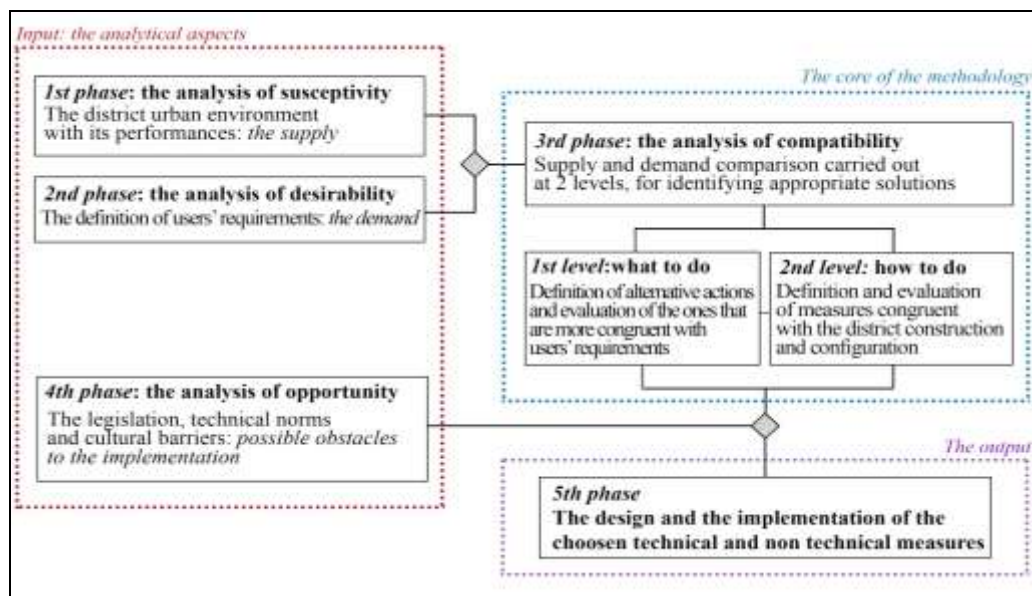
Figure 2. *The Design Methodology for the Environmental Island: The Requirement/ Performance Approach*

The first phase of the methodology aims at building a picture of the actual situation in the district. By various technical analyses, it studies: the public facilities and their catchment areas; the formal and functional characteristics that shape the three-dimensional street spaces; the consistency and composition of vehicular and pedestrian flows, the type of parking facilities; the public transport lines and interchanges; the environmental features such as the orientation, sun and wind exposure, acoustic levels, tree coverage, views etc. All these data make it possible to define and evaluate the performances that the district offers, using also some indicators of state.

The second phase aims at understanding who are the people living in the district, how they use its public spaces and what are their problems and expectations. The attention is focused on the most vulnerable users, including in

this classification all the people with specific needs due to their permanent or temporary conditions or to their age. Various approaches are used to investigate this aspect: the ergonomic configuration, defining the characteristics of the spaces depending on people's activities and their related requirements; the collection of data, statistics, research results etc.; the observation of residents while they use the public spaces to find out their habits and behaviours; the enquiry by questionnaires, interviews, focus groups etc. to find out their opinions; the direct involvement of residents in the design process by different techniques: workshop, brainstorming, visioning etc. Specific attention will be paid to the participation theory in another paragraph. All these operations make it possible to define and assess people's requirements.

The third phase, that is the most interesting, consists of two levels of comparison and evaluation of the compatibility of the transformations. The first level considers the comparison between residents' demand and district's offer that defines the list of actions to take to meet residents' requirements. The second level of comparison concerns the selection among appropriate alternative solutions and measures; this is made by the comparison to the construction/configuration of the spaces.

The fourth phase concerns the analysis of the legislation and technical norms to be respected and possible obstacles to the future intervention. It offers then further elements to evaluate the opportunity of action and the choice of solutions.

The fifth phase faces the design of the chosen technical solutions and focus the attention on specific innovative methods tested in previous European research such as for example the definition of: the path that is most used by residents to reach facilities; the residents' crossing demand in connection with facility attraction and the priority and weight of the intervention to be made in connection with traffic speed.[33] For the choice of the interventions the method refers to indicators or indexes of various type; some of them have been defined in previous European or national research activities such as for example: the level of accessibility of everyday facilities and of public transport interchanges, based on their catchment areas and detour ratio, of sidewalks and crossings, based on specific physical and functional parameters; the sidewalk-carriageway ratio; the type and extent of parking facilities in the district.[34]

Specific methods are used to assess the priority of action based on residents' level of satisfaction and importance; this is very useful to help local administrations in understanding, which are the prior problems to solve.[35]

Also the choice and definition of the solutions and measures to apply are guided by the results of some previous European research that defined their

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33. K. Rauhala et al., *New means to PROMote Pedestrian Traffic in cities-Summary of the PROMPT project and its results* (Roma: Di Virgilio, 2003).

34. L. Martincigh, *Sustainable mobility: a toolbox for design assessment* (Roma: DEI, 2009); Martincigh, *Strumenti di intervento per la riqualificazione urbana* (Roma: Gangemi, 2012).

35. L. Steg, J. De Groot, S. Forward, C. Kaufmann, R. Risser, K. Schmeidler, L. Martincigh and L. Urbani, "Assessing Life Quality in Transport Planning and Urban Design," in *Land Use and Transport. European Research towards Integrated policies* (ed.) S. Marshall and D. Banister (Oxford: Elsevier, 2007).

appropriateness and agreeableness for pedestrians and vulnerable users.[36] In particular, for sidewalk design reference is made to the organization per functional stripes depending on the hosted activities and the type of urban area,[37] for improving accessibility of sidewalks, crossings and bus stops reference is made to specific measures defined depending on technical norms;[38] for defining the most appropriate intersections and traffic calming measures reference is made to European best practice.[39]

First Applications of the Environmental Island Methodology

Thanks to positive synergies between research and teaching, the application of the methodology was possible and some project proposals for the city of Rome have been elaborated.

The first case study is an intervention proposal elaborated in the research "Urban regeneration and pedestrian mobility"; the preliminary analysis and design phases have been examined in depth also thanks to the support of the Municipality of Rome. The analysed area is the neighbourhood of "Pietra Papa", a semi-peripheral residential district built in the 1960s, intensely inhabited, in which problems related to the absence of urban quality, intense private mobility and a high amount of parking, with a consequent high atmospheric and acoustic pollution and some physical and functional degradation, were detected. Pedestrian mobility has been proposed as a tool of urban renewal and a proposal, taking into consideration the use of public urban "empty" spaces to rebalance vehicle mobility, has been set up. The main axis of the pedestrian network, a central road of the area, assumed the role of a "piazza" (square) and was connected with a minor transversal axis, next to the school, a new meeting point for youngsters and elderly, for constituting a system that solves the lack of centrality, meets the need for a space promoting social and cultural relations and creates acceptable conditions also for vulnerable users (Figure 3).

The second case study is represented by the "Sacco Pastore" district; in this example the identification and delimitation of the Environmental Island are practically built-in thanks to the orography of the area which has influenced the urban development of the neighbourhood. The whole district is bordered by the river Aniene and the green belt flanking it, however, the Via Nomentana, an important arterial road, heavily congested, cuts the district in two, creating a strong

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36. Martincigh, *Mobility and Quality of life for senior citizens. Indications to improve the use of the urban environment* (Roma: DEI, 2011).

37. E. Vanderslice, *Portland Pedestrian Design Guide. Office of Tran- sportation, Engineering and Development Pedestrian Transportation Program* (Portland, City of Portland, 1998).

38. M. Di Sivo, E. Schiavone and M. Tambasco, *Barriere architettoniche. Guida al progetto di accessibilità e sicurezza dell'ambiente costruito (*Firenze: Alinea, 2005); CERTU, *Les bus et leurs points d'arrêt accessible à tous. Guide méthodologique* (Lyon: Ministère de l'Équipement, des Transports et du Logement, 2001).

39. CERTU, *Carrefours urbains. Guide* (Lyon: Ministère de l'Équipement, des Transports et du Logement, 1999); A. Sanz Alduán, *Calmar el trafico* (Madrid: Ministerio de Obras Públicas, Transportes y Medio Ambiente, Centro de Publicaciones, 1996).

hindrance between a more naturalistic area, characterized by a thick Roman pine wood, and the rest of the district. The goal of the renewal project is to start up again the continuity between the inhabited and consolidated part of the district and the most natural one, organizing vehicular mobility by traffic calming measures and fostering slow mobility (Figure 4).
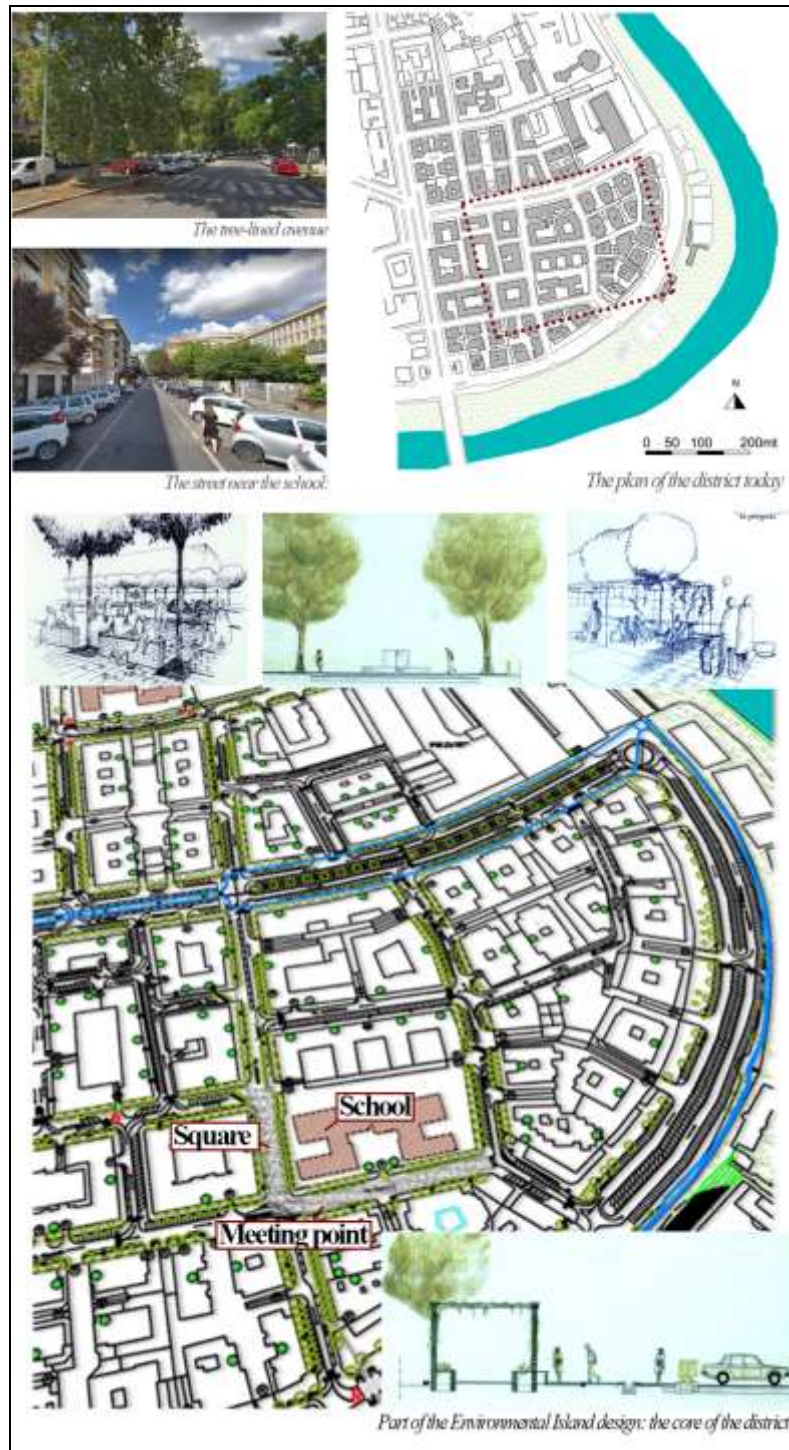
Figure 3. *The Pietrapapa Neighbourhood*
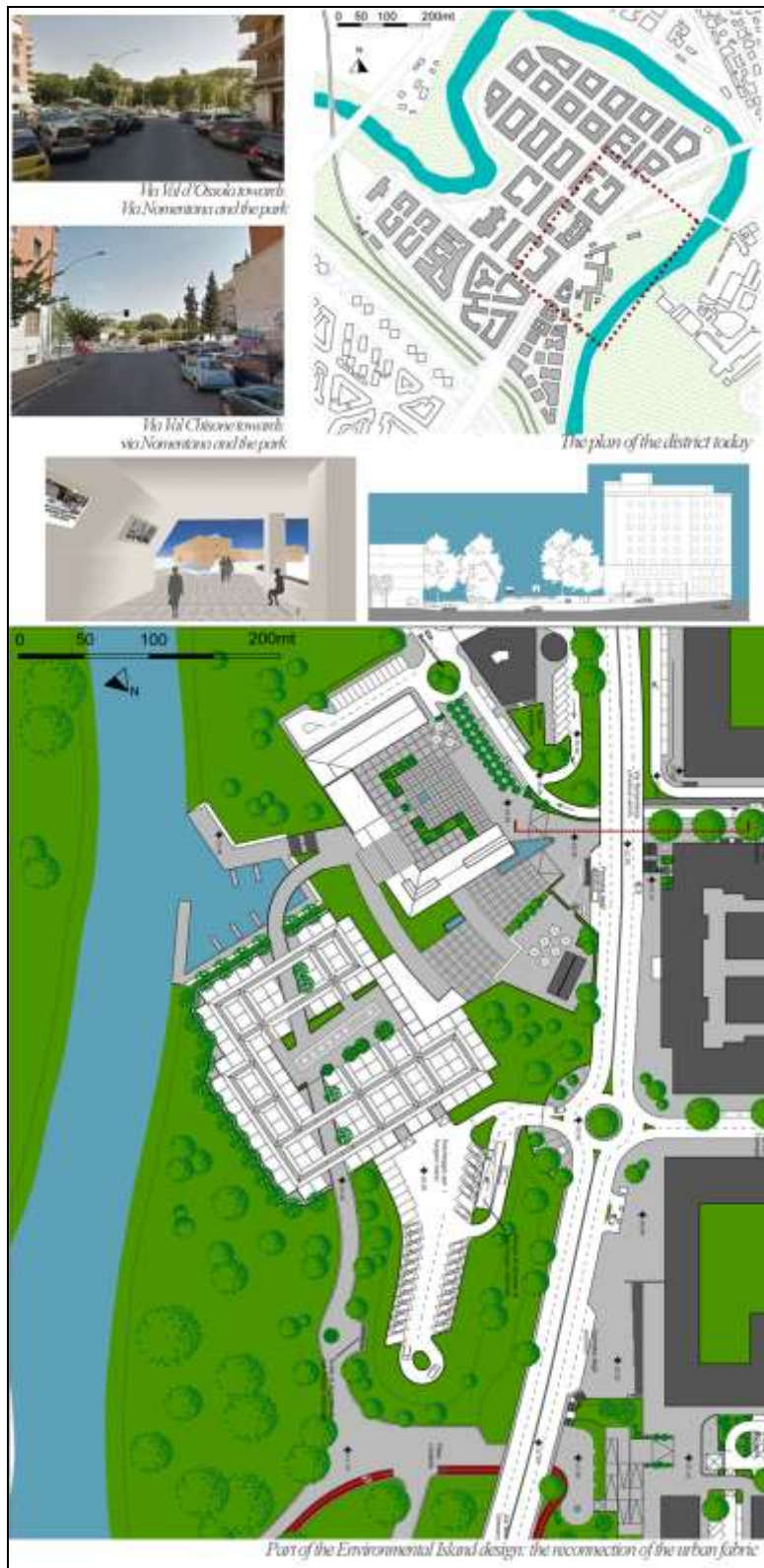
Figure 4. *The Sacco Pastore Neighbourhood*[40]

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40. The contents of the table are based on the Laurea degree design of Manuela Sasso; the

The historical boundaries: the ancient Roman aqueduct

A residential street near the school

The plan of the district today

Part of the Environmental Island design: the definition of the safe and attractive route to school
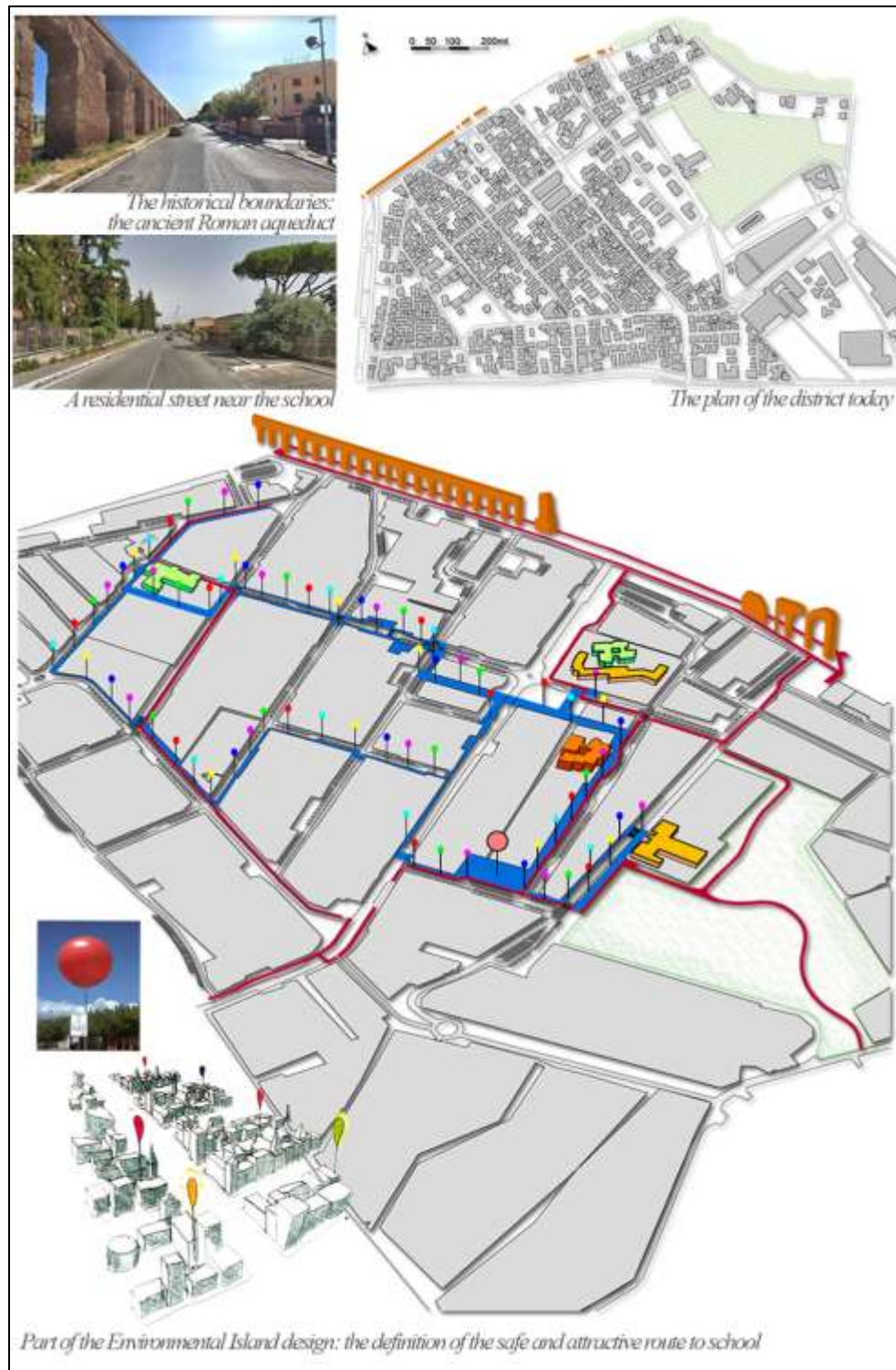
Figure 5. *The Alessandrino Neighbourhood[41]*

drawings have been edited by Marina Di Guida.

41. The contents of the table are based on the Laurea degree design of Natalia Iacopino; the drawings have been edited by Marina Di Guida.

The third case study is represented by the "Alessandrino" district, a very suburban neighbourhood, which is characterized by an important city artery, the Via Casilina, and the ancient Roman aqueduct, the Aqua Alexandrina. The analysis of the territory brought to the delimitation of a macro area which, however, includes different realities from orographic and architectural viewpoints. Through the study of the internal road layouts, some micro-zones were identified, each with daily services. The interventions for this case study had the aim of: rebalancing the vehicular traffic; setting up a pedestrian mobility system playing the role of connective tissue between the centres of attraction of the district; implementing measures for guaranteeing accessibility, safety, comfort and the place identity for both residents and outsiders (Figure 5).

The last case study is the district of "Valco San Paolo", a settlement bordered by an important road, the Viale Marconi, and enclosed by the Tiber River raised banks, making up a sloped green belt. The district was an important industrial area; most of its buildings were abandoned and today reused, in part, by Roma Tre University; residential blocks were built in the 1950s. The well-defined borders, the road system and the identifiable urban structure, the presence of facilities and the specific environmental characteristics took to a proposal of Environmental Island, with the aim of creating a sustainable neighbourhood, with a safer, healthier, more accessible and attractive pedestrian environment. In particular, the project aimed at offering pedestrian paths and spaces that were accessible, to make it possible for all categories of users to reach all the destinations in the area, but also visually and acoustically comfortable (Figure 6). To achieve these objectives and solve the detected problems at the same time, several solutions have been adopted: the paths and pedestrian spaces have been redesigned, according to current legislation on accessibility, equipped with new deciduous trees, positioned according to the study of sunshine and shading, and the existing lighting has been integrated with new fixtures that perform better and enhance the surrounding environment.
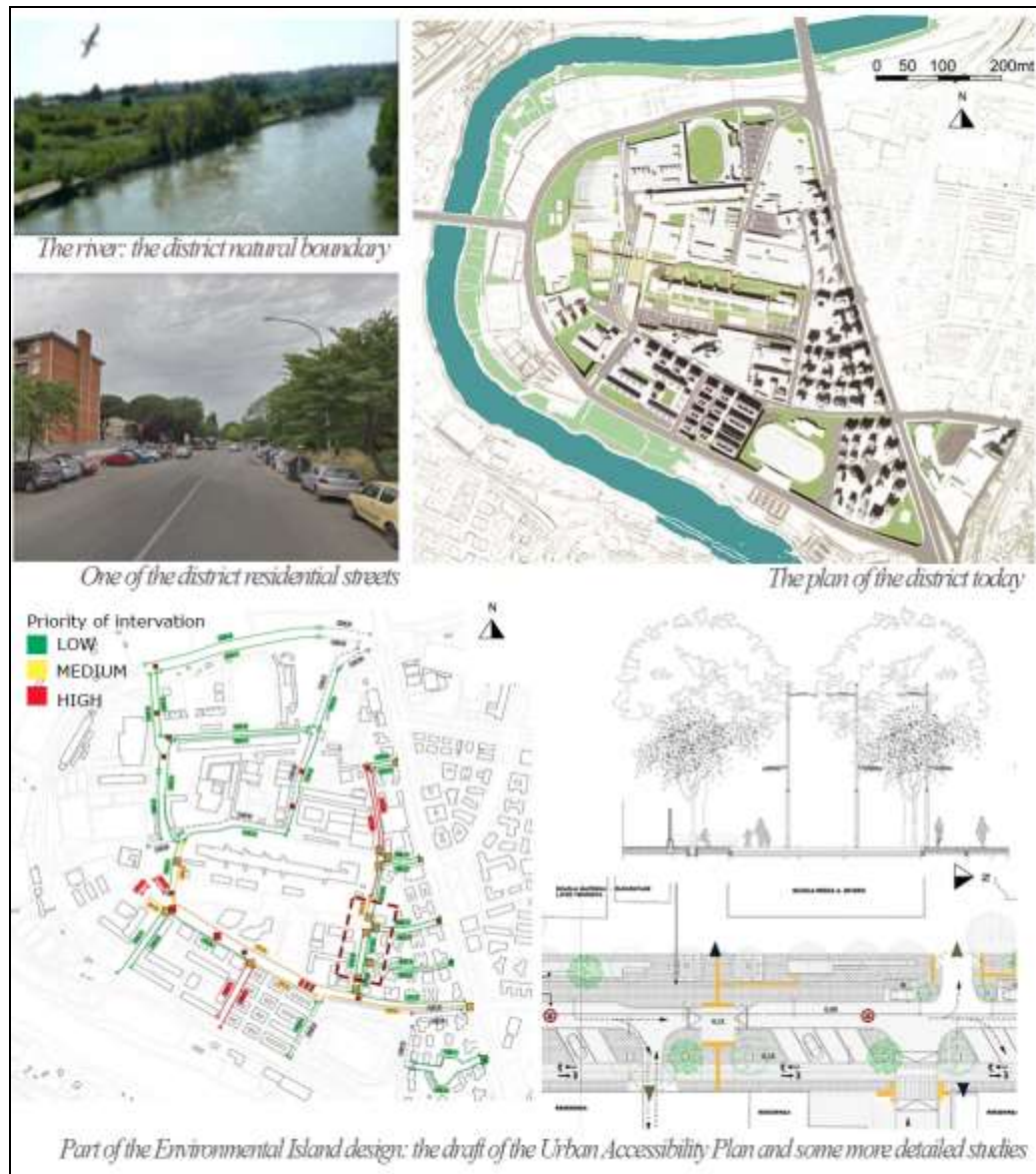
Figure 6. *The Valco San Paolo Neighbourhood[42]*

The Participation Process: Theory and Practice

The peculiarity of the methodology proposed here for the Environmental Island design is the tight connection between the planning process and the citizens' involvement, considered as an essential act to ensure its success. The project of the Environmental Island, to be effective, must indeed be accompanied by the

42. The contents of the table are based on the Environmental Island designs drawn up within the Course of "City and Environment" (2012-'13), prof. arch. Lucia Martincigh, Master Degree in Urban Design, Department of Architecture, Roma Tre University; the drawings have been edited by Marina Di Guida.

citizens' awareness of the need to change their habits and behaviours, by now rooted, in using urban spaces.[43]

The involvement of citizens in public decision-making processes has been widespread in many countries for several decades. Starting from the social movements of the second half of the twentieth century that pushed citizens to participate in decision-making, theory and practice were developed in different national contexts: from the "Citizens' Assembly", which proposed a reform of the electoral system in the Canadian province of British Columbia, to the public consensus conferences in Denmark set to evaluate the consequences of the use of new technologies; from the design of a sustainable city prototype, based on cooperation, in Geraldton, Australia: "Geraldton 2029 and beyond", to the launch of a regional development policy based on dialogue in Portsmouth, USA: "Portsmouth listens"; from the participation at the base of the deep reforms of the public administration in Christchurch (New Zealand) and Kerala (India), to the birth of the first participatory financial report in Porto Alegre (Brazil) and in La Plata (Argentina), to the local initiatives to promote the social engagement in the disadvantaged neighbourhoods of many European and North American cities. In the last fifty years, numerous "bottom-up" institutions and organizations have worked all over the world for the institutionalization of participatory processes, for example: the "Stiftung Mitarbeit" (Mitarbeit Foundation), which since 1963 promotes the bottom-up development of democracy in Germany; the "Österreichische Gesellschaft für Umwelt und Technik" (Austrian Society for the Environment and Technology), a supra-partes platform for the participated administration, which since 1985 promotes participatory processes especially in the environmental policy sector in Austria; the non-profit "Involve" organization, which since 2003 provides information on participatory methods referring to concrete experiences drawn from real practice in the United Kingdom; at the supranational level, the "European Institute for Public Participation" (EIPP), which includes partners in Bremen, Brussels, Luxembourg and Bologna, and the "International Association for Public Participation" (IAP2), an organization founded in 1990 in the United States which, providing consultancy through conferences and publications, deals with training aimed in particular at process managers, offering members a digital platform dedicated to information, comparison and discussion.[44]

Thanks to this wealth of experience accumulated over time and the constant updating and structuring work carried out by national and international organizations, citizens are increasingly participating to express their requests and to influence municipal, regional or national policies. The spreading of these processes has been endorsed and accelerated thanks to the affirmation of two aspects: on the one hand the diffusion of the gender approach,[45] which aims at

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43. L. Staricco, "Multifunzionalità e conflittualità nelle Zone 30," *TeMA trimestrale del Laboratorio Territorio Mobilità e Ambiente* 4, no. 4 (2011): 59-68.

44 P. Nanz and M. Fritsche, *Manual of citizen participation. Actors and procedures. Opportunities and limits (*Bonn: Bundeszentrale für politische Bildung, 2012).

45 R. Frey, "Interlinking Gender Responsiveness and Participation in Public Budgeting Processes," in *Gender Responsive and Participatory Budgeting* (ed.) C. Ng (Cham: Springer, 2016).

including all citizens, on the other hand the diffusion of the use of ICT[46] and digital tools and technologies (and in particular web 2.0 also called participatory web) that makes an increasing number of citizens participate in real time, not physically but virtually.[47] In particular, thanks to the gender mainstreaming approach to the city, more humanistic and holistic, the need to put the respect for daily life ways of men and women of all ages at the heart of all political and design decisions is affirmed.[48] The aim is the achievement of equal opportunities in relation to specific issues such as: accessibility, mobility, safety, environmental comfort, careful use of resources and control of impacts that lead to a higher quality of life and greater environmental sustainability. Moreover, thanks to the rethinking of urban governance, pointed towards "new paradigms" such as the "smart city" or, even more, the "cognitive city", due to the new relationship between technological development, protection of the environment and social change, citizens become real active sensors.[49] In this capacity, they are at the same time actors and users, informing the city's governance strategies and enjoying the use of urban information at the same time.[50]

In Italy, the culture of participation spread especially in the field of urban redevelopment, social policies and interventions for local development. Starting from some important international documents, such as the "Millennium Declaration" of the United Nations in 2000 (followed and confirmed by the Brisbane Declaration, 2005), in 2001, the constitutional reform of article 118 identified the principle of "horizontal subsidiarity" as the formal recognition of the legitimacy of the active role of citizens in the promotion of initiatives of general interest.[51] At the same time, the benefits of collaborating with a politically active citizenship was understood by many local political decision-makers, who aim at intercepting the needs and opinions of different sections of the population, using the knowledge present in the territory and identifying possible obstacles to the success of their programs. Experience showed that the active involvement of the population has various positive effects: it increases civic culture by making participants better citizens, more aware, responsible and active in the collective sphere; it makes it possible to achieve shared and more stable choices as they incorporate the interests of the involved communities; it enables conflicts to be managed in a proactively way, reducing their intensity and transforming them into opportunities for identification and implementation of shared choices; it increases the sense of appropriation and the validity of the choices that, adopted through

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46 A. Hellsmanns, C. Niemeyer, M. A. Hall, T. Zentek, C. Weinhardt, "Towards a Requirement Framework for Online Participation Platforms," *Interdisciplinary Informatics Faculty Proceedings & Presentations*, no. 11 (2016).

47. OECD, "Focus on Citizens. Public Engagement for Better Policy and Services," in *OECD Studies on Public Engagement* (2009).

48. H. Jarvis, P. Kantor and J. Cloke, *Cities and gender* (London: Routledge, 2009).

49. A. Mostashari, F. Arnold, M. Maurer and J. Wade, "Citizens as sensors: The cognitive city paradigm," in *Proceedings of 8th International Conference & Expo on: Emerging Technologies for a Smarter World – CEWIT* (New York, 2011), 1-5.

50. J. Portugali, *Self-Organization and the City* (Berlin: Springer Science & Business Media, 2000).

51. G. Arena, *Cittadini attivi. Un altro modo di pensare all'Italia* (Bari: Laterza, 2011).

procedures involving the communities rather than through bottom down imposition, turn out to be more acceptable and are perceived as more equitable.[52] Therefore, the participatory approach, in addition to promoting cohesion and social integration, improves the quality of design and, thanks to procedures with greater transparency, facilitates relations between administration and territory, contributing to the social capital formation, to restoring trust among citizens and between them and the political system, to fighting disaffection, reducing cronyism and corruption from powerful interests at the same time. For this reason, today in Italy we speak more properly of "circular subsidiarity"[53] and of a gradual transition from the "Welfare State" to the "Welfare community" with widespread responsibility.[54]

Since 2006, the Town Municipality of Rome adopted a tool for fostering the dialogue between citizens and administration: the "Rules for citizen participation in urban transformation". Municipalities, jointly responsible with the Central Administration for the concrete implementation of participation processes, play an important role in the application of this instrument. In particular, the "Rome I Centre" borough recently adopted the renewed "Rules for people participation and for the establishment of the Citizenship Laboratory of the Rome I Centre borough", which recognizes civic activism and citizens' participation to the political and social life as a fundamental right and a method for better protecting the general interest and the common good. According to these Rules, participants meet and define the organization of the works by electing the facilitators, even outside the participatory forum, and a coordinating nucleus, which is chaired by the Responsible for the participatory procedure and has the task of coordinating the work of the Forum at all stages of the participatory process up to monitoring.

Some Experiences based on Participation Processes

Starting from the model developed by the American researcher Sherry S. Arnstein, the so-called "Ladder of Citizen Participation,"[55] it is possible to note large differences between various existing types of participatory processes. The "scale", whose first level is represented by the bottom step, where participation is actually only apparent or manipulated, describes the different levels of participation intensity: from an "apparent participation" (Manipulation and Therapy) to a mere "information" (Informing), conveyed bottom-down, to "consultation" (Consultation), where citizens are simply invited to add comments and information, to "involvement" (Placation), in which citizens are allowed to share their opinions that, however, will not necessarily be taken into consideration, to "cooperation" (Partnership) in which administration and technicians commit themselves to take into account the citizens' opinions, up to "capability"

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52. R. Dahl, *A Preface to Democratic Theory* (Chicago: University of Chicago Press, 1956).

53. A. Bonomi, F. Della Puppa and R. Masiero, *La società circolare. Fordismo, capitalismo molecolare, sharing economy* (Roma: Derive Approdi, 2016).

54. S. Belardinelli, *Welfare community e sussidiarietà* (Milano: EGEA-Università Bocconi Editore, 2005).

55. S. R. Arnstein, "A Ladder of Citizen Participation," *JAIP*, no. 35, 4 (July 1969): 216-224.

(Delegation) where citizens take responsibility for actions to be carried out; finally, at the last level, there is the complete "commitment" (Citizen Control), in which the decision-making power is completely in the hands of citizens (Citizen Control).

The research, carried out by the authors of this paper for several years on life quality improvement through urban sustainable design, made it possible to further study, empirically, also some participatory planning experiences, started together with other institutional authorities and still ongoing.

The first of these experiences is the Permanent Laboratory of Participatory Design "The Historical City from a gender viewpoint", established in 2014 by the Department of Cultural Heritage of the Rome and Province Order of Architects; the Laboratory, started from the workshop "The Historical City of Rome: living between past and future", in which over 20 citizens' associations and institutions operating in the territory took part besides the Laboratory technicians. The Laboratory carries out studies aimed at preparing proposals on various topics concerning some pilot actions. The Laboratory, after a first phase of the work in which the problems of the historic centre of Rome were considered, built "future scenarios" with the people help, applying the principles of Open Space Technology (OST) and the rules of Visioning, from which some proposals, assessed in terms of shareability and plausibility, emerged.[56]

The objective of the Design Laboratory is to face the problematic areas and the topics considered most important and urgent, and to communicate publicly to citizens and periodically to the local administration ("Rome 1 Centre" borough of the city of Rome) the strategies to be adopted in order of priority for improving citizens' life quality. For the mobility topic, small actions that can be immediately implemented, reiterated and standardized, at low cost or enforcing existing laws, promoting appropriate behaviours at the same time, have been proposed. These actions are aimed at solving various problems simultaneously. This experience was disseminated in the "Public Space Biennial", held in Rome in 2017. In the Arnstein's ladder, this experience could be classified as a "Placation" process.

Another experience, the authors took part in, bringing together the participatory approach and the application of the Environmental Island tool, was carried out with the PSP (Participated Sustainable Design) association, within the project "Inclusive processes in gender design for the historic city", carried out with regional funds. The research involved citizens in the analysis of a specific area, including Della Vittoria, Trionfale and Prati districts of the "Rome I Centre" borough, for the prefiguration of future scenarios. In particular, the project involved several phases: a first step characterized by the "walking neighbourhood", in which technicians and citizens shared impressions, excerpts of the neighbourhood history, memories, experiences and problems; a second step identified by the initiative "Tales from the future: how do you imagine the public space of your neighbourhood?", in which citizens devised individual future scenarios, featuring the changes they wanted for their everyday life spaces. A third

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56. L. Chiumenti and R. Poce, *La Città Storica da un punto di vista di genere. Primi risultati del Laboratorio permanente di progettazione partecipata di genere per la Città Storica* (Roma: Architetti Roma Edizioni. Editrice dell'Ordine degli Architetti P.P.C. di Roma e Provincia, 2016).

step, still in progress, concerns the elaboration of shared solutions through the practice of "creative confrontation", a method for reaching a shared decision based on divergent needs and viewpoints, facilitating the overcoming of any conflicting choice.

The Department of Architecture of Roma Tre University has been involved in the identification, delimitation and proposal of possible environmental islands in the area. During the participatory process, a series of meetings between citizens and institutions were organized, in order to transform the shared vision into feasible and achievable proposals for increasing citizens' life quality. Also this experience could represent the "Placation" step in the Arnstein's ladder.

The Users' Involvement: Testaccio

The Urban Traffic General Plan of Rome (Figure 7) has hypothesized some Environmental Islands in the centre of Rome, in two of them citizens' participation is active and the authors have been involved.
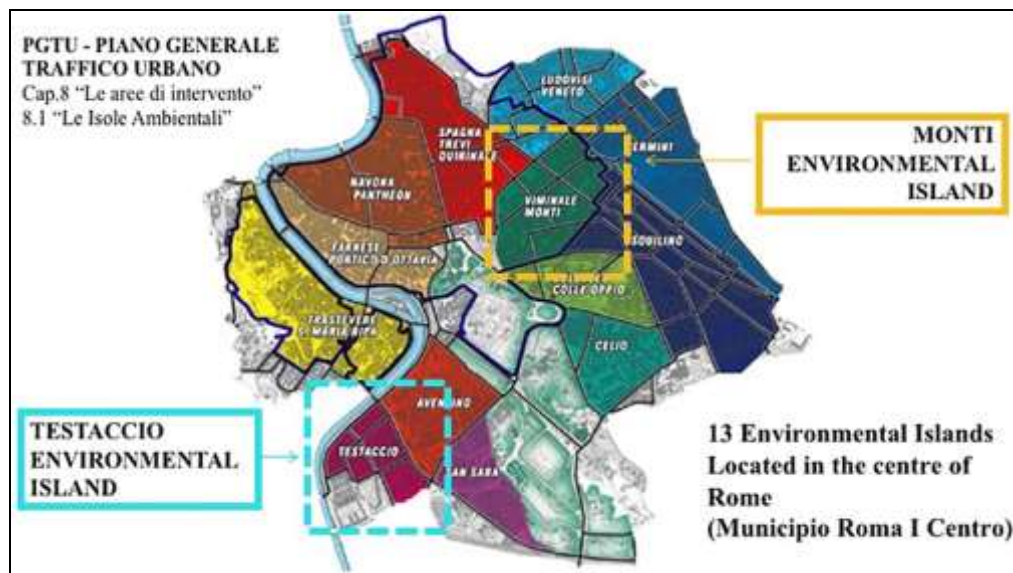
Figure 7. *Environmental Islands Hypothesized in the Urban Traffic General Plan – Rome 2015*

In one of these districts: Rione Testaccio, located not too far from the Roman Forum, the described methodology has been applied with the aim of designing an Environmental Island. The neighbourhood was built at the beginning of the XIX century, following the construction of the city slaughterhouse; most of the buildings, built as working class housing facilities, still host some social housing and consequently weak portions of the society, as older people. Today, besides its residential function, Testaccio attracts people at an urban scale, above all during the night hours, thanks to its leisure activities: restaurant and wine cellars, cultural facilities such as the "Macro", museum, University, archaeological and historical attractions and an always crowded market.

For the application of the Environmental Island tool, the Department of Architecture has taken advantage of the citizens' direct participation; in the community there is indeed a strong sense of identity and belonging, as demonstrated by the presence of a lot of citizen associations all converging in a representative one: Piattaforma Testaccio. This has promoted various bottom-up actions, the most relevant being the reinstatement of an emblematic fountain in its traditional and symbolic place, the "Testaccio Square". The citizen associations' help was essential for analysing the facilities offer and for elaborating the citizen's demand.

The analysis of susceptivity showed how relevant is the issue of accessibility, in a district where a lot of older people live; while the area appears well covered by public transport and its stops, the same cannot be said of all the daily-life services; some of the distances to cover for reaching them are even longer than the required influence radius; moreover, a large part of the paths (up to 36%) has detour ratios higher than the highest threshold. The pedestrian network is affected by several problems: irregular or uneven paving, due to wrong design or lack of maintenance, which represent a threat to safety; various hindrances, represented by permanent barriers, as trees or streetlamps, or temporary ones, as cars and motorcycles parked on sidewalks, which push users to lengthen their route; inaccessible or difficult crossings, combined with long waiting time at traffic lights, which increase the use effort.

Other problems in the area are related to safety from accidents, related to detected high vehicular speed, and to various aspects of environmental comfort: thermal (extreme summer conditions, due to the street orientation and lack of vegetation or shading devices), respiratory (air pollution, caused by huge traffic flows), acoustic (high noise levels due to vehicular traffic, activities and people), visual (poor artificial lighting in some parts of the area), and hygienic (garbage, bad smells, dirt, above all around the market) comfort.

Starting from these considerations, a priority order of intervention was defined. In order to point out the streets with urgent need of action, some methods were applied: the identification of the most used path that, considering the connections both by ideal routes ("bee-lines") and real paths, between points of origin (residential buildings accesses) and of destination (daily used facilities), helped to point out which are the streets pedestrians use more in their daily movements (Figure 8); the demand for crossing that, considering the type and location of facilities and accesses, helped to define where it is necessary to add new crossings and of what type: "single crossing", "key crossing" (in correspondence of concentrated, relevant user flows where specific design for elevated platforms could be devised) or "crossing anyway along the link" (in correspondence of dense commercial texture where shared spaces instead of single crossings could be proposed) and indicated the priority and weight of the intervention based on the street classification by vehicular speed; the specific indicator assessing the accessibility level of the pedestrian network, sidewalks and crossings, highlighted a situation that asks for a prompt action: only 35% of

sidewalks and 9% of crossings are indeed totally accessible, while respectively 52% and 23% are partially accessible (Martincigh and Di Guida, 2016).[57]
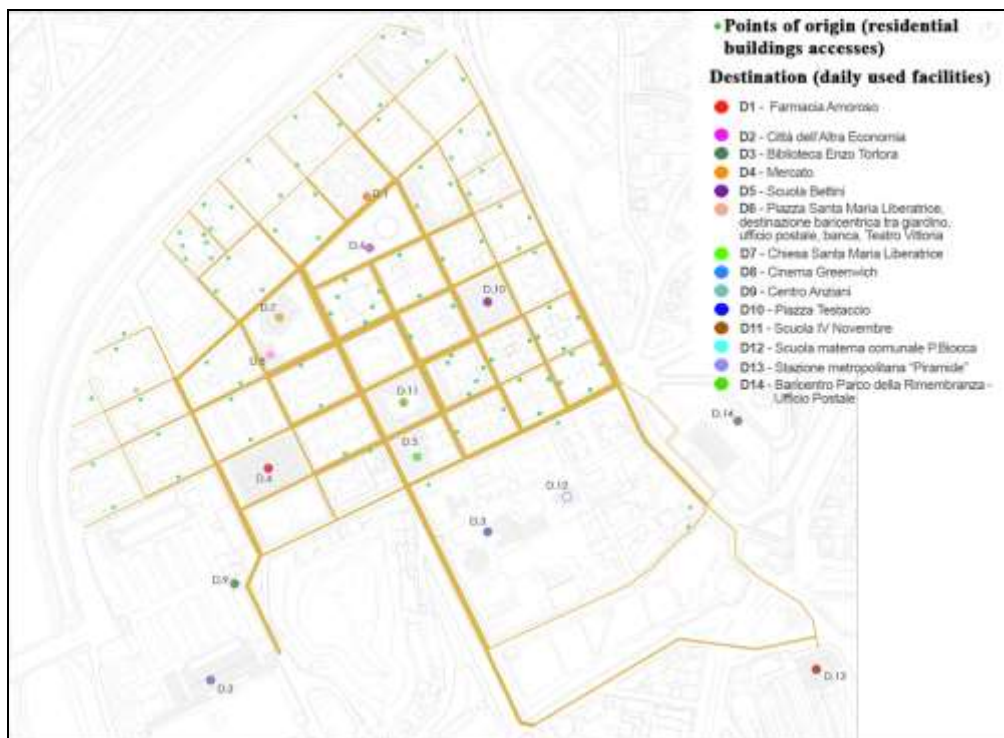
Figure 8. *The Methodology of "the Most Used Path" in Testaccio Neighbourhood, Rome*

The design proposal dealt with these results and suggested: a general increase of the space dedicated to slow mobility and of its accessibility for pedestrians and cyclists, and in particular for PRM; the use of traffic calming devices for increasing safety and decreasing air and acoustic pollution; the increase of "green and blue" for improving comfort conditions, above all during the summer season. In the Arnstein's ladder this experience could be classified at the "Partnership" level, with citizens' associations and University scholars involved together for meeting inhabitants' requests.

A Participation Process: Monti

A further planning experience that brings together the Environmental Island theory and the activation of a specific participatory process, as established by the "Rules for citizen participation in urban transformation" of the "Rome I Centre" borough, is going on in the Monti district, one of the oldest and most central districts of the city of Rome, very close to the Coliseum and the Imperial Forums.

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57. L. Martincigh and M. Di Guida, "La mobilità sostenibile come strumento di riqualificazione delle infrastrutture stradali urbane: un approccio metodologico," *TECHNE*, no. 11/2016 (Firenze: University Press, 2016): 180-187.

Despite the presence of numerous institutional offices (including the Bank of Italy), the district managed to keep an artisan vocation until the 1990s, when it was transformed due to the presence of a branch of Roma Tre University but above all to the increase of "dine and dash" mass tourism, which caused many fast food restaurants and souvenirs shops to take the place of typical Roman historical trattorias and workshops. Residents, however, still live the neighbourhood and demonstrate a great sense of belonging to the place. As in the pilot case of Testaccio, described above, and in all the historical districts with a strong identity, citizens (residents, artisans and retailers) have gathered in associations with the objective of safeguarding the interests of the different categories and strengthening the sense of community.

The Mobility and Transport Department of the Central Municipality has drawn up a project to establish an Environmental Island in the Monti district, starting from the perimeter identified in 2015 by the Urban Traffic General Plan. The project provides for a Limited Traffic Zone, various traffic calming devices and the pedestrianization of a main street. Some Environmental Island principles, such as accessibility, sustainability and microclimatic control but above all the "urban spaces' liveability", are not included in the project. The residents fear the touristification phenomenon, that is the transformation of their neighbourhood into an exclusively tourist area, as already happened in other districts of Rome (e.g. Trastevere), and the pro-tourism projects that take to the loss of the neighbourhood *genius loci* (the spirit of a place). They would like that the "spontaneous" spaces of coexistence were maintained and improved, making them more liveable, reducing the invasion of the through traffic flow, the vehicular speed and the spaces devoted to "restaurant dehors". For this reason, the associations asked the borough to start a participation process, carried out within an "Information and public consultation path on the Environmental Island project for Rione Monti" (included in the borough's participation rules), which has the aim of guaranteeing to all the neighbourhood inhabitants both clear information on the urban transformation project and voice in the decision-making process (Figure 9).

Figure 9. *The Participation Process in the Monti Neighbourhood, Rome*

The Department of Architecture of Roma Tre University, thanks to its previous research experiences on the Environmental Island topic, has been involved in this process. The value brought by external specialists within the process consists not only in their knowledge of the methodologies and in their ability to use them appropriately, but also in their impartiality in an atmosphere sometimes tense, which often characterizes the relationships between administrations and citizens. They represent, therefore, a third party that is competent and neutral at the same time and that makes it possible to replace the citizens/administrators binary scheme with the citizens/administrators/facilitators triangular system.[58]

The process of participation, still ongoing, has been carried out in two ways: directly, through meetings with associations' representatives, experts and borough councillors to discuss the preliminary project proposed by the Central Municipality and collect the opinions, positive and negative, expressed by the various categories (inhabitants, retailers, artisans, commuters, etc.); indirectly, through questionnaires administered online to the neighbourhood inhabitants. All the contributions were recognised by the experts and used in the preparation of the technical opinion provided to the central administration to drive the design towards the citizens' requests and expectations. This type of participatory process is similar to the "Charrette,"[59] carried out in the United States in the context of the New Urbanism trend: a participatory urban planning process in which a multidisciplinary team (made up of citizens, interest groups' representatives, policy makers and experts) works in a collaborative and transparent way to solve issues regarding urban and territorial planning.[60]

Lessons Learnt

Considering the different situations, problems and opportunities peculiar of each case study where we had the possibility to apply the Environmental Island tool, it is possible to summarize some lessons learnt.

- A general consideration concerns the difference in the application of the Environmental Island tool to the planning of a new area or upgrading of an existing area. In the first case, the indications result easily applicable, but they are applied with great difficulty when the project concern a district that is already built, featuring defined road and public transport network, facilities and rooted uses. Sometimes, the situation shows how some

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58. G. Pomatto and L. Bobbio, "Il coinvolgimento dei cittadini nelle scelte pubbliche," in *Meridiana: rivista di storia e scienze sociali* 58 (2007): 45-69.

59. The name Charrette (from the French noun which means "wheelbarrow") refers to the way in which the practical tests were completed in the 19th century at the Academy of Fine Arts in Paris: at that time the examiners ended up affixing the last brushstrokes on their work, often even on the wheelbarrows with which they carried the works to the Academy, accompanied by the people who actively intervened to say their own.

60. Nanz and Fritsche, *Manual of citizen participation. Actors and procedures. Opportunities and limits,* 2012.

indications of the traffic code and consequently of some other legislative tools and plans are in contrast with the purposes, explicit or implicit, of the Environmental Island tool. It emerges then the importance to update these various tools.

Our experience demonstrates, in particular, the importance to update these various tools in order:

- to allow the public transport to pass also through the Environmental Island and then on local roads;
- to allow the downgrade of roads that happen to be inside the delimitation of an area that represents a "district unit", as above defined.

The European Research ARTISTS (Arterial Streets Towards Sustainability) considering that in the past, when there was more compatibility between people's activities and traffic flow and speed, all the conurbations gathered around main streets, and these were lively because as the Romans said: *via est vita* (street is life), faced the changed actual situation, trying to find a solution different from the bypass one. Today indeed, the same streets host slow and fast mobility that are not compatible anymore, at the same time feature activities attracting people; it is necessary then, taking into account the complexity of the consolidated urban fabric, to redesign these streets to give them back their role of lively spaces and to make the different flows compatible, considering also the possibility for public transport to pass through the Environmental Island using local roads.

- The "Sacco Pastore" application highlighted how it is necessary to consider the district orography, which can take to choose the Environmental Island boundaries regardless of road classification. It shows also the importance of going beyond the indications of the law, that limits to roads the boundaries, taking into account also other infrastructural elements as well as natural, archaeological, historical and architectural ones, how it has demonstrated the case study of the "Alessandrino" district, where the boundaries were identified by a mix of elements: two roads, one hilly park and an ancient Roman aqueduct.
- The relevance of identifying the most active pole/driving element which represents the "core" of the neighbourhood, was the lesson learnt from "Pietrapapa" pilot project. In this case the school was the driving pole but it was also important its interface with other poles and other users (e.g. the elders' centre). This approach helps to identify the pedestrian network and the spaces where it is necessary to act first.
- The "Testaccio" case-study can be considered a pilot project that validates the first part of the methodology on the performance analysis (the supply) and on the citizens' associations involvement by the institutions (highlighting the precise definition of the demand and its possibility of being satisfied). Another relevant topic emerged too. Although the process involved citizens, administrators and experts during its development and

arrived to a first definition of the actions to be made, it cannot be said very effective since the borough, the institution closest to the citizens, has no possibility to act directly and move to the implementation step because it is not a budget-spending centre. Also in this case it would be necessary to change the law and the organization of the Central Municipality.

- The most recent case study: "Monti", gave important information about the relevance of the citizens' participation. If citizens are not involved and their inputs are not taken into account, the Central Municipality risks not to achieve what had programmed and lose public funding too. Citizens, within their associations, are now mature and have also an institutional instrument, the "Rules" above mentioned, then, if the district inhabitants are not consulted at the start-up phase of the project, but only once the project has been defined, the central administration diminishes its probability of success at the approval and implementation phases. Above all, since the administration has not activated a virtuous circle of "policy capacity,"[61] it could also run the risk that local interventions, even if individually effective, cannot be implemented because they are not shared and accepted by the city first users, its inhabitants.[62]

Discussion and Conclusions

Following the described cases, it is worthwhile to make at least two of the many possible research questions characterizing the topics addressed.

The first research question concerns the possibility to achieve in any case the goals set by the Environmental Island tool. For example, which are the limits and possibilities to apply this tool to the historical districts, characterized by the great complexity resulting from the conditionings of the urban stratification in time (as most of the case-studies described in this essay)?

The second question concerns the participatory processes. While ways and techniques to be used for activating these processes, depending on the peculiarity of the specific cases, are well known, a new line of research to wonder about is: how can anyone carry out participatory processes leading to proposals that are not only shared by citizens and administrators but are also feasible and acknowledged by administrators? How can anyone convince administrators to activate participatory processes providing the "Citizen Control" level?

In the operational reality it often happens indeed that the participatory dimension is too trivialized, confined within the local consultation among representatives, which is not capable of producing sufficient results either in terms of sharing knowledge or of development of collective intelligence.

The challenge is therefore to go to the root of the problem, to investigate participatory planning practices trying to answer the question: "is it really possible

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61. M. E. Kraft and S. R. Furlong, *Public Policy: Politics, Analysis, and Alternatives* (Washington: CQ Press, 2012).

62. E. Ongaro, *L'organizzazione dello Stato tra autonomia e "policy capacity,"* (Catanzaro: Rubbettino, 2008).

to set up participatory projects for the territory?" and therefore "how can the beneficiaries of projects and policies become subjects active in the definition of the same?"[63] Building a "polyphonic"[64] vision of the territory, as it is desirable in the participatory planning experiences, means therefore fostering a deliberative and compromise interaction, in which the dialogic exchange between experts and local knowledge is based on the recognition of local subjects as bearers of resources for the project and produces empowerment, encouraging the sustainability of processes and outcomes.

In conclusion, participation is meant as an "art of interactive design", in which the method and the procedure constitute the flexible tools and the legislative references useful for setting processes that are understandable and as transparent as possible.

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63. E. Saporito, *Partecipazione e progetto. La creazione collettiva di senso nelle esperienze di progettazione partecipata* (Tesi di laurea, Politecnico di Torino, 2008).

64. The word "polyphonic", typical of a choir, means: different voices which express different viewpoints; it seems then just fitting for the participatory planning.

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The Pragmatic Role of Iconic Buildings in Promoting Social Engagement: A Case Study of Sage Gateshead Music Centre, Newcastle upon Tyne, UK

By Xi Ye*

Creating cultural-led iconic buildings has become a model that political and economic institutions seek to present a cultural narration of a transformation of local economics associated with urban regenerations. Symbolic appearance has been laid much emphasis on iconic buildings, as it tends to attract visual consumers rather than actual users. However, the question is after iconic buildings have attracted people, what they can do next to function well. Thus, to a cultural-led iconic building, there should be a pragmatic role in developing social life other than a symbolic role only. This article intends to explore the pragmatic role of cultural-led iconic buildings in promoting social engagement – first, how the idea of social engagement takes part in the way of searching for the design concept, and second, how the building actually functions to improve social engagement in everyday life. Sage Gateshead music centre is a key project in the regeneration of Newcastle-Gateshead quayside in the Northeast England. The symbolic form of the building is not the only issue that the architect took into account; the idea of social engagement was also taken into the consideration of finding the design concept, as it is conceptually proposed to create an "Urban Living Room", and this concept was technically inscribed in spatial forms. The actual experience in the building is in some way echoing the design concept. The building performs exactly as an "Urban Living Room" where diverse events happen and different social groups encounter. Therefore, Sage Gateshead Music Centre acts as a positive example that interprets the pragmatic role of iconic buildings in promoting social engagement.

The Two Roles of Iconic Buildings

There are usually two dimensions to iconic buildings – symbolic and functional. In urban iconic buildings the symbolic image has been seen to be more important, because they have such a prominent presence in the urban landscape. Appearance is a determining factor in how the public to respond to their surroundings. Thus, architects sometimes focus more on how buildings look than on how they are actually used. These iconic buildings are positioned in relation to visual consumers instead of actual users.[1] Surface appearance and visual effects are more important in this case, so that buildings are designed from the outside in, from the vantage point of the external gaze. It is not only architects who are striving to search for symbolic meanings and translate these

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1. Paul Jones, *The Sociology of Architecture* (Liverpool: Liverpool University Press, 2011), 120.

meanings into the symbolic forms of the building; city managers also have to decide what kinds of meaning could be linked to the city as a brand in the form of iconic buildings.[2]

There is a tendency for urban regeneration projects to have iconic buildings with socially or culturally meaningful components as their central focus, because to promote a city as a cultural hub seems to be an effective way of promoting economic growth, and, where the iconic image tends to dominate, cultural consumption usually plays a particular role as the most visible aspect of a symbolic economy.[3] Therefore, producing iconic buildings for urban regeneration projects becomes a model in re-imaging cities and in creating new tourist destinations. The opening of the Guggenheim Museum in Bilbao marked a flagship of re-imaging the city with a focusing on an iconic building for economic and cultural purposes and achieved remarkable success, since named the "Bilbao effect."[4] After that, numerous iconic buildings mushroomed all over the world. In the UK, Imperial War Museum North in Manchester designed by Daniel Libeskind (Figure 1), Sage Gateshead music centre in Newcastle designed by Norman Forster and Wales Millennium Centre in Cardiff designed by Jonathan Adams are typical examples. All of these projects were accomplished at the beginning of the 21st century; each associated with larger-scale regeneration plans for declining industrial sites. The symbolic features of these buildings bring visual distinctiveness to the declining sites, and their cultural features accessible to the public generate new events and social life that enable obsolete sites to be revived. The involvement of iconic buildings in urban regeneration projects reflects the fact that political and economic institutions are seeking to present a culturally and socially meaningful narrative of the transformation of local economics, and the increasing production of iconic buildings which are expected to be visibly dominant implies a transnational approach that contributes to city images through their visual effect.[5]

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2. María A. Sainz, "(Re)Building an Image for a City: Is A Landmark Enough? Bilbao and the Guggenheim Museum 10 Years Together," *Journal of Applied Social Psychology* 42, no. 1 (2012): 115.

3. Steven Miles and Malcolm Miles, *Consuming Cities* (New York: Palgrave Macmillan, 2004), 45.

4. Jones, *The Sociology of Architecture*, 2011, 116-17.

5. Ibid, 118.

Figure 1. *Imperial War Museum North*
Source: http://libeskind.com/work/imperial-war-museum-north/.

As cultural institutions are signs of urban affluence. So cultural facilities, such as museums, art galleries or concert halls, can promote the iconic status of a place in a conceptual way, as the cultural capital which was planted into a building is helpful to the building's reputation and thus the building will become a "mental icon" in people's minds instead of a visual icon. This is why culture-led iconic buildings are the main components in regeneration projects. For some buildings, such as Sage Gateshead and Centre Pompidou, both the symbolic image of the building and its cultural reputation are public attractions. There are buildings, such as Tate Modern and British Museum that have a symbolic role without their building's appearance being crucial to it (Figures 2 and 3). They act more as "mental icons", since their visual appearance is second to their cultural reputation.

Figure 2. *Tate Modern*
Source: https://bit.ly/2qrKPkE.

Figure 3. *British Museum*
Source: https://bit.ly/1LLasGG.

Iconic buildings seem to be responsible for representing a city's image and bringing development opportunities through their symbolic purposes rather than through functional purposes. However, these two dimensions of symbolism and functionalism are not contradictory. The symbolic image of the building signifies its cultural status in the city, which brings the building a reputation and benefits the city's fortunes. In the meantime, an eye-catching symbolic form can attract public attention, thus bringing more public life to a place and generating a more vibrant and friendly urban atmosphere. If the interior space of the building is organised well, it will become an attractive place for social contact, as can outdoor spaces; hence, both the interior of an iconic building and its surroundings can play an important role in improving public life. In this sense, the form of iconic buildings also has the capacity to activate urban public life, and thus it performs a pragmatic role. People might be attracted by the symbolic appearance of the building at first, but the building is then able to demonstrate a pragmatic end. Therefore, when architects are developing their design concepts, they can (and should) take actual use into consideration rather than being concerned with symbolic appearance only. Their concepts could be created from the intention to contribute to social inclusion, community life, public communication and the like.

According to Richard Sennett, cities have for centuries provided places where human beings could focus their social aspirations, experience the interplay of interests and test the possibilities of human life.[6] However, they are not serving that function now. Due to the impacts of secularisation and industrial capitalism, people have slowly destroyed the "public realm". The public realm becomes more intense and less sociable. For Sennett, a city is a place where strangers meet. It

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6. Richard Sennett, *The Fall of Public Man* (London: Penguin, 2003), xvi–xxi.

should be "the forum in which it becomes meaningful to join with other persons without the compulsion to know them as persons". Since the rise of secularisation, the loss of the belief in gods, and the cult of personality, social change has resulted in the loss of the public realm. However, Sennett believes it can be reinstated once more, but only if "public man" can somehow be resurrected. A well-designed spatial setting might in some way resurrect "public man", as spatial settings can induce social contact between people. Spatial settings have catalytic effects on social contact, not just targeted at one or the same activity, but allowing everyone to behave in accordance with their own intentions and movements and so be given opportunities to seek out their own spaces in relation to others there. It is social contact that turns collective spaces into social spaces. What needs to be found are spatial forms that are well organised so that they offer greater opportunities and causes for social contact.

Urban public realms can be found wherever we live, work and interact, serving as the main social contact generator. What we call public life is enacted not only in open-air urban space, but also in publicly used buildings.[7] So, as well as streets and squares, there are theatres, museums, stadiums and stations that are used by large numbers of people. Usually culture-led iconic buildings are functioning as galleries, museums or music centres, which are good communal places for public gathering and encounter. These culture-led iconic buildings can offer great chances of social encounter for strangers who see, are seen and share the same activities. Those buildings which have iconic roles have greater potential to attract the public visually. But, after the buildings have attracted people, what they should do next to function well, thus generating and reinforcing a better social life, is a more essential matter. Although visual forms play an important role in making a city's identity, functional terms should always be the essence of architecture since whether or not a public space is used well is related much more to the quality of the space.

This paper studies Sage Gateshead music centre, an iconic building located in Newcastle upon Tyne UK, designed by Norman Foster and partners, as a positive case interpreting the pragmatic role of iconic buildings in promoting social life. The architect chose certain social values according to relevant contexts and transplanted them into design concepts, through which buildings become socially meaningful – the concept of making an "Urban Living Room" in Sage Gateshead comes from the social expectation of regenerating Gateshead quayside to be a public and vibrant place. Architects then technically design physical spaces based on those concepts. Architects seeking to embody social values in building forms, especially the interventions of high-profile architects in public debates in the most noticeable form of iconic buildings, is a key way in which particular buildings are endowed with social meanings.[8] Sage Gateshead music centre, which is attractive for its noticeable form and the high-profile designer, convey a strong social meaning of publicness and inclusiveness through the design of large public accessible spaces and various social engagement programmes. Thus, when people

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7. Herman Hertzberger, *Space and the Architect: Lessons in Architecture 2* (Rotterdam: 010 Publishers, 2000), 134.

8. Jones, *The Sociology of Architecture*, 2011, 30.

encounter these buildings and take part in programmes, they may realize the meaning that the buildings are attempting to express.

"Urban Living Room": The Pragmatic Role of Sage Gateshead

Sage Gateshead music centre is located on Gateshead quayside by the River Tyne on what had once been a flourishing industrial site. The building plays a key role in the regeneration of Newcastle Gateshead quaysides by offering an iconic appearance and new cultural hub to the public. Before going into detail about its architecture, it is necessary to consider the regeneration context of the Newcastle Gateshead quaysides (Figure 4).

Figure 4. *View of Gateshead Quayside*
Source: http://www.fosterandpartners.com/projects/the-sage-gateshead/.

Planning Context

Gateshead quayside played a significant role in the development of the town, while the River Tyne served as the foundation for the development of infrastructure, trade and industrial growth throughout the urban area's history. The industrial revolution in the mid-18th century gave rise to an economic boom on Tyneside, where transportation of coal, glassworks, ironworks, chemical manufacturing, rope-making and heavy engineering rose. By the end of the 19th century, newly developed infrastructure, particularly the High-Level Bridge, moved traffic away from the quaysides, contributing to the decline of riverbank industries. During the mid-19th century, rapid population growth resulted in the spread of local workers' housing, eventually becoming overcrowded slums. Gateshead quays became increasingly neglected in the mid-20th century until the 1990s, when regeneration efforts began to be taken, and a number of public projects have since been delivered to revive the quaysides.[9]

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9. Newcastle City Council, *Gateshead Quays: Masterplan Report* (Newcastle upon Tyne:

Newcastle Gateshead is the dominant economic force in North-East England. The economic development of the North East region is relatively behind that of other parts of the UK. According to Christopher Bailey, one of the priorities for growth in the North East is to encourage the development of small business.[10] This region has the lowest rate of self-employment of all British regions: 8%, compared to 15% in London, and 14.5% in the South West. Besides the lowest rate in self-employment, the North East also has fewer people working in the "high-skill and knowledge" group: only 22% of the population, compared with a 27% nationwide average. Furthermore, the number of VAT registered businesses in the North East is the lowest in the UK, the proportion of mature businesses is also low, and the expenditure of companies in the North East on research and development is only half of the national average. So in this context, it was claimed that the primary solution to renew this region would be developing the "creative economy", which was seen as a "hybrid sector dealing with creative and cultural products and activities".[11] It is pointed out by Peter Hall that the important trick for urban renewal is to make the city itself creative, rather than focusing on urban tourism and consumption only.[12] The urban areas of Newcastle Gateshead have the region's major retail destinations, universities and research institutions.[13] The idea of "culture" as a driver for regeneration in Newcastle Gateshead can be traced to the 1980s, when Gateshead Metropolitan Borough Council made a decision to build Gateshead International Stadium on a brownfield site. Later the Angel of the North was created, followed by Millennium Bridge, BALTIC Centre for Contemporary Art and Sage Gateshead (Figure 5).[14] All these programmes attract commercial investment for the regeneration of Newcastle Gateshead through the idea of culture and the arts.

The vision for Gateshead quayside was for it to be a place of "international standing", a place that the people of Newcastle and Gateshead would be proud of and that would benefit all people visiting, living and working there. The design of regeneration and development projects was to be of high quality. Design was to take into consideration the need for distinctiveness, inclusiveness, accessibility, attractiveness and usefulness. The area was expected to provide programmes including business and family activities structured around human-scale built forms and unique public spaces in order that a vibrant waterside community would come into being. The area was planned to serve as a linkage, tying together Gateshead's cultural and business quarters, its town centre and Newcastle quayside, being an integral part of all those places, while retaining its own unique identity.[15]

Newcastle City Council, 2010), 23.

10. Christopher Bailey, "Cultural Values and Culture Led Regeneration – the Case of Newcastle–Gateshead," *14th International Conference of the ACEI* (Vienna, 2006), 2.

11. Ibid.

12. Peter Hall, "Cultural Wisdom of Gateshead's Music Complex," *Regeneration & Renewal* (May 2003): 14.

13. Newcastle City Council, *Regeneration in Newcastle upon Tyne* (2008).

14. Anthony Sargent and Peter Buchanan, *The Sage Gateshead: Foster + Partners* (Munich and London: Prestel, 2010): 16.

15. Newcastle City Council, *Gateshead Quays*, 2010, 12.
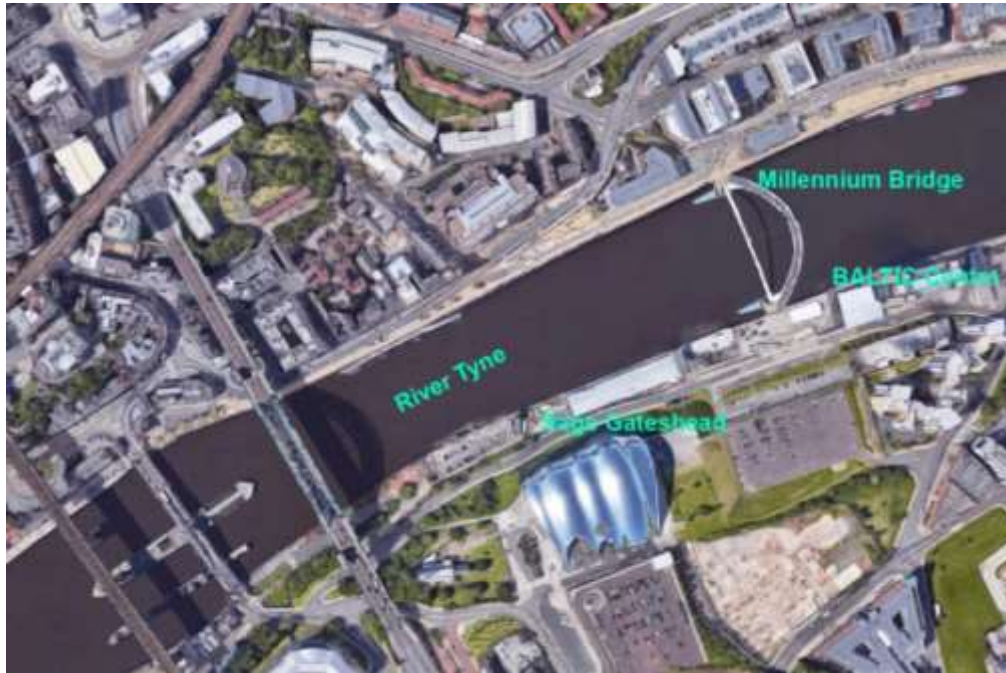
Figure 5. *The Urban Context with which Sage Gateshead Engages*

Following these visions, Newcastle and Gateshead quayside has experienced a remarkable transformation in recent years. The main creative venues, together with residential developments and two international hotels, were envisaged to bring new life to a place once known for coal and shipping by the implanting of renewed and artistic focal points.[16] Investments of £138 million went to the quaysides, aiming to revitalise both physical quality and social life. The revitalisation was centred on and relied on some key cultural and creative projects – the BALTIC Centre for Contemporary Art at a cost of £46 million, the Sage Gateshead music centre, designed by Foster and Partners at a cost of £70 million, and Gateshead Millennium Bridge, built for £22 million. These contemporary projects combined as a cluster in order to redefine an area which used to be the mark of prosperity of the industrial age.

The BALTIC was transformed from a 1940s grain warehouse and is now a contemporary arts centre overlooking the River Tyne which opened to public in 2004. The Sage Gateshead, opened in 2005, was not planned purely as a building for performance and public entertainment. It would also be the place where local organisations were based – including the Northern Sinfonia, Folkworks and a music education centre. The Millennium Bridge, the first tilting bridge in the world, linking Newcastle and Gateshead over the River Tyne was opened in 2001.

Nowadays, The BALTIC contemporary art gallery and Sage Gateshead music centre still function as two attractor poles in the mixed-used development on Gateshead quayside.[17] There is a loop of attraction across both banks of the river. This runs from the bars and restaurants of Newcastle quayside, passes across

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16. Steven Miles, "'Our Tyne': Iconic Regeneration and the Revitalisation of Identity in Newcastle Gateshead," *Urban Studies* 42, no. 5/6 (2005): 916-17.

17. Sargent and Buchanan, *The Sage Gateshead*, 2010, 16.

Millennium Bridge, connecting the two banks, arrives at the BALTIC gallery, then climbs up to Sage Gateshead, and finally descends to the Swing Bridge and reconnects with Newcastle quayside. Therefore, the collaboration of a cluster of creative and pleasure programmes around the river banks means that Newcastle Gateshead quayside can be portrayed as an exemplar of projects aimed at urban revitalisation through cultural production.[18] It was also suggested that due to the development of large numbers of cultural programmes, the cultural production in Newcastle Gateshead quayside would bring new-born creative focus and confidence which could lead to the revitalization of regional cultural identities. Identities such as these are effective resistance against the homogenization of globalism.[19]

Site context and regeneration visions provide architects with meaningful references to draw on for building design. These references include the expectations for the building – to be attractive, distinctive, cultural, international, useful, public and vibrant, as well as social expectations of a place that is a unique and functional public space; to provide a human-scale built form for all activities; and to be a place for all people who work, live and visit – that is, social inclusion. These ideas will be taken as design references and guidance for architects and will be embodied in building forms.

Design Concept

The architect's concept was to be created based on the vision of establishing Tyneside, as an international arts destination, as well as filling a gap on the map for a major music venue in North-East England. The $122 million (approximately £74 million) Sage Gateshead was conceived in 1997 after Gateshead Council held a competition for the contract for the design of a concert hall complex. It has been subsidized by an $83 million (£51 million) grant from the Arts Council England, grants from One North East, the regional development agency and the European Regional Development Fund, plus a $10.5 million (£6.4 million) donation from a local software company.[20]

Of the 100 architects who registered for the competition, 12 were asked to do concept sketches. Six international firms went on to the shortlist and they were asked to provide detailed schemes, and finally Foster and Partners won the competition.[21] The Foster team was led by Spencer de Grey, Robin Partington and Jason Flanagan, with Arup Acoustics, led by Raj Patel and Bob Essert. This is the first performing arts building designed by Foster and Partners. Their building concepts followed planning visions, which were to make the building a place with a diverse and inclusive social mix, to take cultural activities as a stimulus for

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18. Peter Van der Graaf, *Out of Place? Emotional Ties to the Neighbourhood in Urban Renewal in the Netherlands and the United Kingdom* (PhD thesis, University of Amsterdam, 2008), 232.

19. Steven Miles, *Newcastle Gateshead Quayside: Cultural Investment and Identities of Resistance* (2004).

20. Suzanne Stephens, "The Sage Gateshead, England," *Architectural Record* 193, no. 8 (2005): 106.

21. Ibid.

spatial vitality, and to envisage the building as functioning for all people rather than merely acting as a visual icon for visitors.[22] Foster and Partners believed that art is an essential part of urban life. Art can inspire and educate people and can also be a force for the revitalization of a city.[23]

Sage Gateshead music centre includes three main performance halls, each with specific spatial and acoustic criteria. Besides being a concert hall, it is also home to a music education centre for local residents. A multi-functional concourse links the three halls together, serving as a public street overlooking the waterfront. The most eye-catching element is the curving silver shell wrapping up the three halls. By proposing a public and informal atmosphere with the help of river views, architects envisaged Sage Gateshead to be one of the city's great new social spaces.[24]
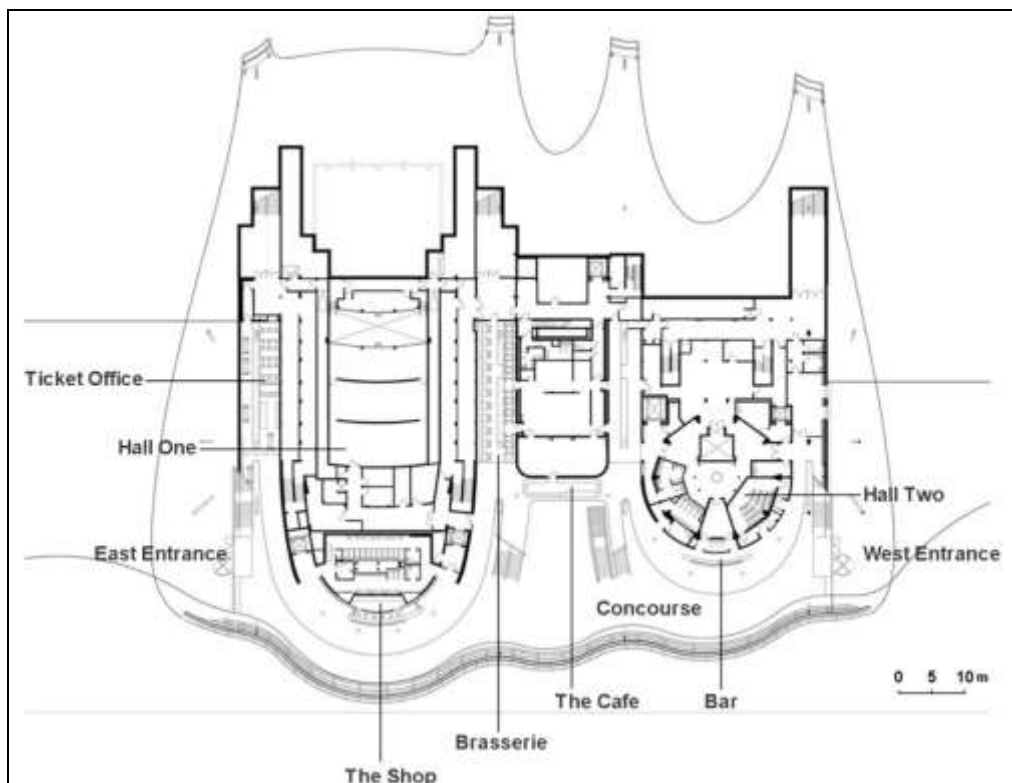
Figure 6. *Concourse Level Plan*
Source: http://www.fosterandpartners.com/projects/the-sage-gateshead/.

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22. Sargent and Buchanan, *The Sage Gateshead*, 2010, 14.

23. Mark A. Newman, "Urban Living Room – The Sage Gateshead Gives New Meaning to the Term 'Mixed Use'," *Entertainment Design* 39, no. 7 (2005): 23.

24. Chris Abel and David Jenkins, *Norman Foster: Works 5* (Munich and London: Prestel, 2009), 219.
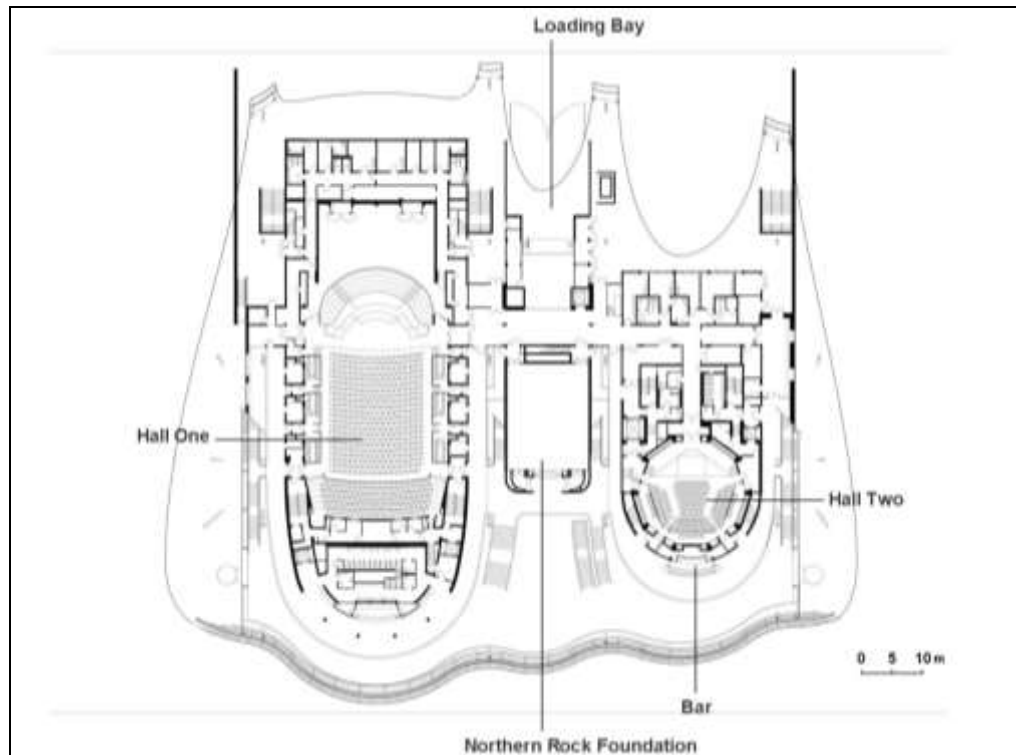
Figure 7. *Level 1 Plan*
Source: http://www.fosterandpartners.com/projects/the-sage-gateshead/.

The key concept the Foster team created was to make the building an "Urban Living Room". Foremost here was that the project should not only contribute to the urban regeneration of the quayside by creating a cultural symbol for the sake of the city's image, but should also offer an "Urban Living Room" for the local community to enjoy and share music.[25] Sage Gateshead was planned to be an internal public realm where people from different social groups could meet. This living room is equally accessible to everyone through the various activities taking place in it. The living room focuses on real life. The identity of the living room is flexible and can be changed according to who is using the space.

The concept of building an "Urban Living Room" was materialized into the most significant physical space in the building – the concourse (Figure 6). It can be seen from architect's conceptual diagrams that the heart of the building is the concourse, a place for welcoming, relaxing, accessing halls and music classrooms or waiting for concerts, as well as a splendid place for river viewing. This event-mixing machine aims to provoke social encounter and interaction, thus providing a sense of involvement and harmony and a wide range of inclusion.[26] Hence, the meeting of the enormous range of different activities is considered to be what the building works for. This concept largely echoes the regeneration vision of creating a place for all people and making public space both unique and vibrant. Sage Gateshead also responds to Sennett's claim that the city should be the place where

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25. Newman, "Urban Living Room," 2005, 23.
26. Sargent and Buchanan, *The Sage Gateshead*, 2010, 15.

strangers meet.

Besides the concourse, the concept of social inclusion was also reflected in the design of the concert halls. There are two main halls. Stairs on either side of the hall climb straight up to the galleries from the concourse. Hall One is a large concert hall for the resident orchestra, Northern Sinfonia, which had long lacked a home, as well as for visiting orchestras and other larger-scale musical groups. The other hall is smaller and more intimate for chamber music, folk, jazz and other intimate performance (Figure 7). There is also a rehearsal room which has multi-functional use for performances, school music showcases and full orchestra rehearsals.[27] Each hall was designed as a separate enclosure, but the windswept nature of the site suggested a shelter "shrink-wrapped" around the entire building.[28] Flexibility and high quality are priorities so as to attract better performances and more other uses, such as conferences and recording sessions. Education and community participation are also priorities. Education takes place not only in the education centre, but also in the form of performance in the concert halls. The centre seeks to encourage everybody to engage in music making. The concerns of flexibility and public participation aim to achieve more social involvement and a broader mix of social groups and activities, so that more people benefit from the building and it functions better as an "Urban Living Room."[29]

Hall One is a classic shoebox hall, 45 metres long, 24 metres wide and 21 metres high, and seating 1,700. The flexibility of Hall One is achieved through a number of devices. It has six moveable ceiling panels and acoustically absorbent curtains. The height can be adjusted by raising and lowering ceiling panels between 10 and 21 metres, so the volume of the hall and the sound reflections can be adjusted and it is easily made to suit any type of music and speech. The stage is also moveable and adjustable, with a basic platform that can be rolled forwards and backwards, and has a slight acoustic resonance to help the sound work and enable musicians to feel their peers' playing. The stage can be set up to suit the size of the performance group by adding or subtracting smaller platforms of different sizes and shapes, so that musicians can see each other and can be seen by the audience. Stage flexibility, therefore, is devoted to enhancing the integration between musicians, and between musicians and audience, as well as the participation of the audience.

Hall Two is very different from Hall One in character. It is a tall, ten-sided prism in shape. The main level has a flat floor and is surrounded by two galleries. Walls are decorated with red-stained wood, warm and passionate, bringing an atmosphere of a jazz club or a pub theatre. Hall Two looks more intense and intimate than Hall One, which serves to create better interaction between musicians and audience. The principle of flexibility and wider involvement is also considered in the design of Hall Two. The main level has retractable seating and its decagonal shape allows it to be arranged in various ways, such as with a stage on one side or in the centre (Figure 8).[30] Hall Two is programmed to be used for a

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27. Ibid, 19.
28. Foster and Partners, "The Sage Gateshead UK 1997-2004."
29. Sargent and Buchanan, *The Sage Gateshead*, 2010, 23.
30. Ibid, 26.

wide range of folk and world music, jazz, contemporary dance, opera, theatre-in-the-round, chamber music and broadcast recordings. At the same time, the architects also considered how music would be performed in the future, and thus they left room to accommodate avant-garde music in three dimensions.[31] By designing an intimate space, moveable seating and stages, and leaving room for future change, social interaction is significantly increased, as more activities are expected to be attracted to and take place in Hall Two.
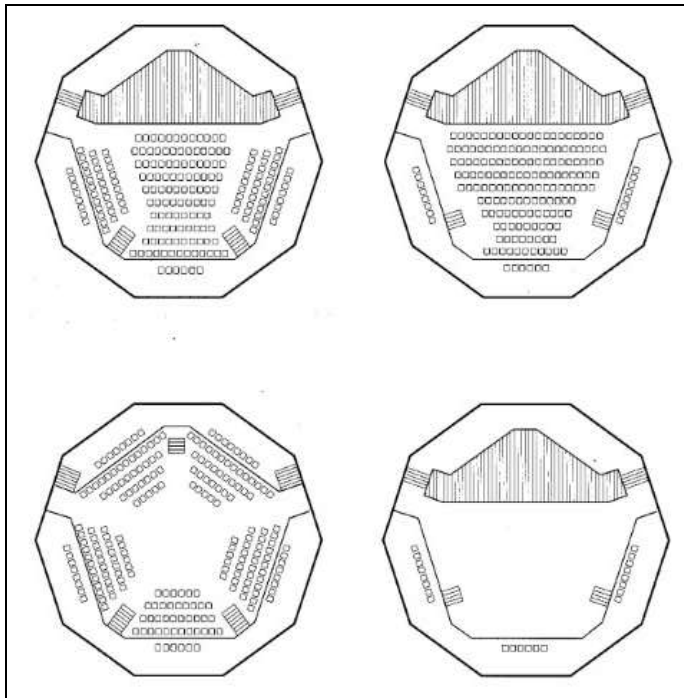
Figure 8. *The Main Level of Hall Two can be arranged in Various Ways*
Source: The Sage Gateshead: Foster + Partners, p. 21.

The rehearsal room – the Northern Rock Foundation Hall – sits between Hall One and Hall Two but is set slightly further back.[32] It is a simple rectangle in shape, with shoebox proportions. As it needed to function for orchestra rehearsal, it was designed with similar natural acoustics to Hall One so that musicians can adapt to acoustic conditions easily before moving to the larger performance hall. Flexibility has been applied here as well. It has a flat floor without any fixed furniture. Seats and stage can be set up according to what the room will be used for, such as orchestra rehearsal, chorus rehearsal, school music showcase, solo piano performance, dance festival, banquets and exhibitions. It can accommodate 300 audience members at maximum capacity. When the room is in use, the big window overlooking the concourse creates a visual connection between the musicians and people outside. If the doors are open, the rehearsal room becomes a semi-public space.

The public viewing box in Hall One works in the same way, in that it

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31. Newman, "Urban Living Room," 2005, 22.
32. Ibid, 27.

creates the chance for the public to see rehearsals for free. Openness and transparency reduce the distance between musicians and the public and allow the public to get closer to the music, enhancing people's sense that music is not some mysterious job only for musicians but something in which everyone can be involved and from which anyone can benefit, through various kinds of engagement.

There is a loading bay behind the rehearsal room. The bay gives access to the rehearsal space, leading in one direction to Hall One and in the opposite direction to Hall Two, which makes it a cross-axial route. Large instruments and other equipment can be easily delivered to any hall or be moved between them through this loading bay. A lift on one side of the bay serves for deliveries to the kitchens of the brasserie and cafe on the concourse level. In addition, there is a "green room" at the far west of the building serving as rest space for musicians when they are not on stage. There are also dressing rooms behind the cross-axial route. However, there are few backstage facilities other than these. In planning the building in this way, the architects aimed to encourage musicians to use public spaces, such as the bars at the galleries outside the halls and the cafe in the concourse, in order to get them mingle with the public.
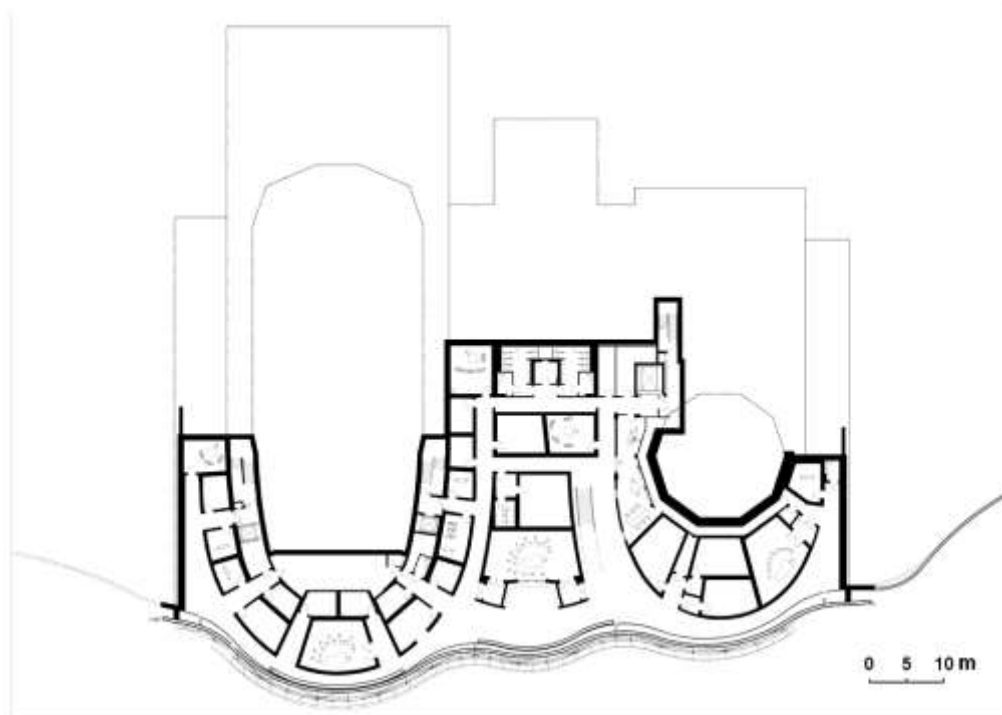
Figure 9. *Level - 1 Plan: The Music Education Centre*
Source: http://www.fosterandpartners.com/projects/the-sage-gateshead/.

The music education centre was planned underneath the concourse level, where 26 practice rooms with non-rectangular shapes are now found, filling the space between the foundation walls of the halls and the curved surface (Figure 9). This gives rise to a panoramic view towards the River Tyne through the

curving glass curtain.[33] The music education centre makes the building not only a concert venue for professional musicians, but a real music-making and music-playing place for anyone, young or old, working or retired.[34] The music education centre is also semi-public: people can access it from the concourse, walk along the galleries and watch music being played inside practice rooms through their windows. Hence the music education centre is also a place where people from various social groups meet and enjoy music, again corresponding to the concept of achieving a wider social mix.

The architects envisaged Sage Gateshead as an efficient working building with warm and elegant public space. Rehearsal and musical practice are visible; musicians are encouraged to stretch themselves into public zones, audiences are surprised to find they are connected easily with artists. Everything is planned in such a way as to try to ensure that the functioning of Sage Gateshead is transparent. It is a practical and legible working machine, and it encourages everybody to be engaged in social life through the joy of music. The architects were aiming to fulfil the brief as well as to achieve the social meanings which Newcastle Gateshead required – to be culturally attractive, to create a social mix and a wider range of involvement, and to be a home of music for the whole public. At the same time, the softly gleaming and sinuous surface, large-scale volume and eye-catching shape guaranteed that Sage Gateshead would be iconic. It would deliver both functional and iconic features and satisfy the needs of urban regeneration.

Everyday Life at Sage Gateshead

City planners had grand ambitions to make the building a city icon to express "international standing", as well as to enhance the artistic status and distinctiveness of Tyneside. Besides those planning visions, social inclusion and diversity were significant considerations in the city revival plan, in order to make a useful and vibrant place, beneficial to all people visiting, living and working nearby. Following the planning prospects, the architects proposed the concept of an "Urban Living Room" for Sage Gateshead, aiming to contribute to public participation in shared common spaces instead of promoting the city's image as a cultural symbol only. After the building came into use, the programmes and activities happening in the space might answer the question of whether or not Sage Gateshead has already become an Urban Living Room that corresponds to the architects' concept and the planning expectations of social inclusion and diversity.

Management Goals

Sage Gateshead and all of its regional, national and international work is managed and programmed by North Music Trust. The mission of Sage Gateshead's performance, learning and participation is "to entertain, involve

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33. Ibid, 29.
34. Hall, "Cultural Wisdom," 2003, 14.

and inspire each and every person" through "engagement with outstanding music and creative events".

To achieve its mission, North Music Trust has established five main agencies running events and programmes for participants and audience.[35] The music education centre offers courses, classes, workshops and summer schools for people from pre-birth to over 90, from first note to higher education, across all kinds of music, serving about 2,000 people each week. Many of the choirs, orchestras, bands and ensembles perform on stages at Sage Gateshead, around the UK and beyond. The concert halls are homes of music in the North East with an audience of 220,000 people each year. Concerts held in the two concert halls range from the world's most famous artists to the next big thing, from choirs to dance, and from jazz to classics. Royal Northern Sinfonia is permanently accommodated at Sage Gateshead. Made up of professional musicians who play on their own stages and around the world, the Sinfonia is the leading chamber orchestra in the North East and the only full-time one in the UK.[36] Folkworks is an organisation developing and encouraging interest and involvement in traditional music, song and dance, as a means to nurture young artists, and expand audiences and participants. Sage Gateshead is the leader in community involvement programmes. Music is used to develop skills and life chances, strengthen community relations and improve health and well-being across the North East and across ages, with the help of health, education and social care partners. In addition, Sage Gateshead possesses venues to let for events from conferences to weddings, so as to contribute economic value to the region.[37] These activities run by Sage Gateshead work together collaboratively; for example, the concert events sometimes staged by those involved in Folkworks contribute to bonding people together, and so to strengthen community cohesion.

According to Sage Gateshead, over the first few years of management of its programmes, the learning and training programmes grew steadily, so in 2010 it took the next step of drawing together the "Artistic Principles" that underpin all of its artistic programmes. The principles give detailed guidance on the diversity of the programme to enable more social groups to participate, by programming more new and a wider range of activities targeted at different ages and stages, as well as by integrating learning, participation, performance and other activities taking place in the building. The principles also seek to build demand for and engagement in music by ensuring close collaboration between programmes and promotional teams in listening to audience and participant feedback, by analysis of market data, and by working closely with communities. The principles are also concerned with a wide range of partnerships. Partners could include local authorities, educational institutions, independent music promoters, community organisations and other venues.[38]

At management level, the planning prospects and architectural concept have been taken into account and effort has been made to achieve them. Equality and

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35. Sage Gateshead, *Annual Review/September 2014-August 2015* (2015).
36. Ibid.
37. Ibid.
38. Sage Gateshead, *Artistic Principles* (2016).

diversity are goals embedded in the organisation of programmes. North Music Trust is committed to implementing equality and diversity by ensuring that "decision making about our workforce is based on skills, abilities, potential and experience", by designing activities according to "the needs of the communities" that it serves, and by providing entertainment to encourage as wide an audience as possible to be involved.[39] The commitment to broad social inclusion that North Music Trust provides is supported by trained staff, so as to ensure that the planning prospects and architectural concept are thoroughly realized in actual use.

What is going on in the Building?

Two entrances at the west and east side of the building welcome the public from several directions. Accessing the building through the east entrance and passing the ticket office, there is a shop on the concourse level right underneath the north gallery at the back of Hall One. The shop offers many cultural products, including architectural books detailing the concept and design of Sage Gateshead, visitors' guidebooks to Newcastle and Gateshead, collections of places of interest across the region, music cultural handbooks, music-learning materials and instruments, as well as various souvenirs featuring the Sage Gateshead logo. These cultural products are produced by Sage Gateshead under the theme of music and the Sage Gateshead brand in the form of books, instruments, postcards, collections, mugs, pencils and children's toys. These products in turn reinforce the cultural identity of Sage Gateshead, because they help to further enhance Sage Gateshead's iconic status and its role in music making.

There is a cafe and a brasserie below the Northern Rock Foundation Hall on the concourse level (Figure 10). There are also four bars in the building. One of them is right below the north gallery of Hall Two. Visitors can use these without having to buy concert tickets. Tables and chairs are set in front of the cafe in the middle of concourse and along the concourse edge opposite the bar. When there is no special event taking place, there are usually ten to fifteen people sitting, eating or chatting in groups. Some participants walk across the concourse in a hurry from one of the entrances to their music-learning studios. Some families with babies come to join family workshops. Other visitors wander more slowly over the concourse and sometimes stop to have a seat and a cup of tea. Some people like to stand at the edge of the concourse, looking towards the river and Newcastle city through the glazed enveloping roof canopy. Some who work nearby just have a relaxing walk from one entrance to another across the concourse during their lunch break. The concourse is usually busy and lively.

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39. Sage Gateshead, *Equality and Diversity* (2016).

Figure 10. *The Cafe*

Sage Gateshead offers room for people who love performing and want to showcase their musical talent in front of an audience on the concourse stage (Figure 11). A slot to perform on the concourse can be booked through the Sage Gateshead website. This opportunity Sage Gateshead provides is for a wide range of music lovers to perform live, including emerging artists, community ensembles and school groups. As the concourse is meant to be a public living room and it is already a vibrant place, these live performances help to animate it further. So occasionally there are choirs, bands, or a small orchestra performing in the centre of the concourse, and the café, as well as the galleries outside the halls become temporary watching stands, thereby spontaneously converting the spaces between the halls and enveloping roof canopy into a temporary harmonious performance space. People who are sitting in the cafe and walking through concourse become a temporary audience. River Tyne and Newcastle city becomes the backdrop to the concourse stage, reminiscent of Greek open-air theatres with ocean views as their backdrop.

Figure 11. *Performance in the Concourse Space*

The question is what gives the concourse space this potential to become a live theatre or performance space. The major reason is that the concourse space, including the cafe and the gallery areas, corresponds to the typology of a theatre. The basic spatial typology of a theatre is that it consists of a stage and seating areas, and that there is a strong relationship of interaction between the activities of performing and watching. The space at the centre of the concourse acts as a stage, while the cafe acts as the stalls and the overhanging galleries of the upper level as the balcony. The watching area embraces the performing area, representing a spatial form with a strong relationship between performing and watching. Any prototype is about one certain spatial morphology in which relevant activities take place. There is a prototype of schools and activities associated with schools, there is a prototype of hospitals and activities associated with hospitals, and there is a prototype of theatres where the performing/watching activities can take place. The concourse space provides pre-conditions for performing/watching activities because it conforms to the basic principle of the typology of a theatre, thereby possessing the potential to accommodate theatre activities. Therefore, when there is a live performance happening on the concourse, people will gather together, some will sit at or stand near the cafe, some will watch from the upper-level galleries, and thus the relationship of performing and watching is spontaneously built and the sense of a live theatre is generated (Figure 12).

There are performances in concert halls and on the concourse for all tastes – popular, jazz, world, classical, dance, brass bands, experimental, folk and traditional, and so on. Both domestic and international musicians, from Europe, America, and other parts of the world, and both world-class musicians and the centre's own training bands – all can perform in Sage Gateshead. Performances are at different times of day – mornings, lunchtimes, evenings and late at night. Audiences are able to find any performance according to their preferences and free time.
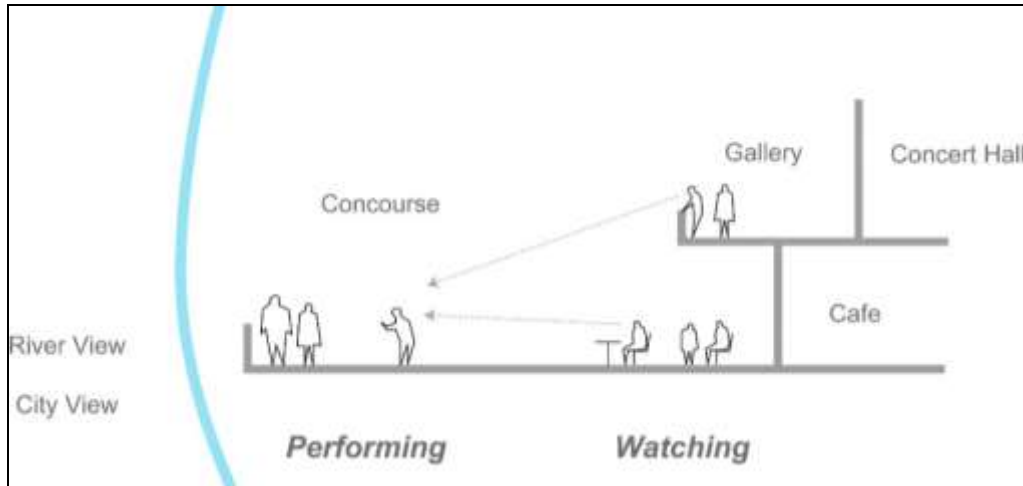
Figure 12. *The Concourse Space Working as a Theatre*

Before the start of a concert, especially a big concert held in Hall One, the concourse will become extremely crowded and lively (Figure 13). People use the concourse space as a waiting room. Some people prefer to have a drink in the bar, some like to have a brief meal in brasserie or the cafe, some stand at the edge of concourse and enjoy the river view, while some walk in and around the building. After the concert begins, the concourse will gradually return to normal.

Figure 13. *Lively Concourse before Concert*

Usually there is a 20-minute break in the middle of a concert. During breaks audiences are encouraged to come to the galleries outside the halls and enjoy the bars there. Musicians are also encouraged to come and relax on the galleries with drinks and conversation. Therefore, during a break it is possible for audiences and musicians to meet and share their experience of the music. This opportunity offered to both audiences and musicians reduces the distance between them – audiences come into close contact with musicians, while musicians can get face-to-face feedback from audiences. The mix of audiences and musicians also helps to enhance the sense of an "Urban Living Room", because the mix enables more social encounters to occur between diverse groups of people.

Sometimes when there is live music being performed on the concourse stage during a concert break, it is very interesting to see interactions taking place between the two activities. People who are gathering around gallery bars become a temporary audience for the concourse performance during the concert break, and the liveliness in the building is doubled immediately. People who are drinking and chatting on the gallery level unexpectedly have an extra chance to enjoy live music, and the concourse performance gains an additional audience for 20 minutes. People who come to the galleries are automatically entering into a theatre space, as the concourse space coincides with the typology of theatres and the potential to serve as a theatre. So the people gathered in the galleries or at the bars unconsciously take on the role of audience for the concourse show. In this way the performing–watching relationship in the concourse space is reinforced and the identity of the building as an "Urban Living Room" is made more legible during concert breaks.

Figure 12. *Open-Air Free Stage Performance during SummerTyne Americana Festival*

Figure 13. *American Cultural Products Stalls*

Figure 14. *CD Shop on Concourse during Festival*

Figure 15. *Kitchen Stalls*

Figure 16. *Cultural Products on Sale at Sage Gateshead Shop*

SummerTyne Americana Festival is an annual weekend event held every summer which attracts visitors from across the world for a celebration of

Americana music in and around the Sage Gateshead building. This weekend event showcases American roots music from both the UK and the US.[40] The music programme is held in two halls, along with free stages, film programmes, poster exhibitions of arts and music, stalls of American cultural products, street kitchens and other attractions (Figures 14-18). An open-air stage is set up on the east side of the building, with a range of live music playing, including country, rock, folk, blues, vintage soul and so on. The sloping, arranged becomes a natural auditorium during such festivals. Live music is also programmed on a concourse stage inside the building, from soul choir to bluegrass, from gospel to ballad, and from country to rock. River cruises with live music are also included as one of the additional events.

During festivals, Sage Gateshead is at its most vibrant. Music events take place inside and around the building, attracting great numbers of visitors per day. A hundred visitors may be sitting, lying or standing on the landscaped lawn, watching the free stage showcase in the open air, while hundreds more are enjoying exhibitions, films and live music on the concourse inside the building, which makes the building crowded, sometimes even congested. It is interesting that, on walking from the east entrance to the west entrance through the concourse at such times, it comes to resemble a retail street made up of the Sage Gateshead shop, cafe and bar along one side of the "street" and food stalls, CD stalls, post exhibitions and stalls selling other cultural products along the other side (Figure 19).

Figure 17. *The Concourse Space Working as a Street during SummerTyne Americana Festival*

The concourse is a polyvalent space, serving as free stage, exhibition space, pedestrian street, river-viewing stand, concert waiting room and assembly place, and so on. The essence of a polyvalent space is that it is a space containing multiple spatial typologies. The Sage Gateshead concourse contains at least five potential spatial prototypes. The prototype of a theatre, which has been discussed above, offers opportunities for the concourse to be a performing stage with the cafe and upper-level galleries becoming watching spaces. The prototype of an exhibition can require a spacious venue or a relatively closed and introverted space, depending on the theme of the exhibition, the scale of items in it and the atmosphere the items are intended to create. A pedestrian prototype demands wide

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40. Sage Gateshead, *SummerTyne Americana Festival* (2017).

and longitudinal space with attractions along two sides. A viewing stand should be located in a prominent position and should be matched with the lower-level landscape views. An assembling place requires a space for gathering which is able to accommodate a large number of people at certain times. It is possible for the concourse to play all of the above roles. However, it does not have a determined role prior to practical use.

A significant aspect of what Sage Gateshead offers is its "Join In and Make Music" programme. Join In and Make Music enables anyone of any age or ability to be involved in music. It covers early years, work with schools, vocal and instrumental learning, professional learning, community music, higher education and special training for people who have a disability. In addition to the work at the Sage Gateshead building itself, 70% of the activities of this programme take place in the communities it serves. Since opening in 2004, Sage Gateshead has provided music-making sessions to over a million people in more than 1,000 places across North East England.[41]

Join In and Make Music offer opportunities for adults in instrumental and vocal skills and plenty of opportunities for performing. Some even have chance to perform on stage with known performers. The "Silver Programme" provides a diverse range of musical activities for people over 50 particularly – joining a choir, playing an instrument, learning new skills and meeting new friends. According to a personal conversation with a participant in the Silver Programme, at present there are 52 bands involved in it.[42] Participants can join more than one group. Participants are drawn from throughout the North East region, and the average age of participants is 60. So far, 1,300 people have been registered to play in these groups.

There are also programmes for young people. A wide range of groups, courses and events are offered to young people. They have the chance to join bands, learn from the very best with Royal Northern Sinfonia and attend one of the summer schools. There are all kinds of family events taking place in the Greggs Children's Room at Sage Gateshead. Throughout most of the year, during term-time and school holidays, activities are provided for children and babies to enjoy with their families. Not only running programmes at the building, Sage Gateshead is also delivering "In Harmony" projects in communities. In Harmony is an immersive programme working with primary school children, to help them improve their life chances, social skills and educational attainment through learning an orchestral instrument. A wide range of other activities are also delivered in schools to support school curriculums and enrich music culture. Activities in settings across the region as well as at Sage Gateshead are available for all ages, abilities and stages.[43]

Professional music study and research are also a part of the programme. Degrees and relevant courses are offered, and welcome musicians who would love to build and develop professional careers in music. In studying music at Sage

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41. Sage Gateshead, *What we do*.
42. A participant in the Silver Programme, personal conversation taken place at the Sage Gateshead building, July 6, 2015.
43. Sage Gateshead, *Music for Young People* (2017).

Gateshead, one is not just learning instrument skills and practice, but one is doing so from inside those practices with a group of professional musicians from the UK's top organisations. The training programmes offer skills and training opportunities for people working in all aspects of music education and community music, across all genres, as well as devising and delivering specific training for professionals working in other sectors. Sage Gateshead's approach to training and workforce development helps to develop and sustain a diverse workforce for the creative and cultural sectors.[44]

In addition, people who have special needs are also considered in the programme. The "Accessible Learning Strand" supports access to music and musical learning opportunities for individuals who have special educational needs or disabilities. Experienced tutors and talented musicians will support participants in a relaxed, fun and friendly environment. Sage Gateshead also provides access for participation in employment-focused training supported by local partners.[45] In such ways, Sage Gateshead becomes an extremely social-inclusive organisation which brings benefits for people of all ages and abilities.

Conclusions

Social engagement is essential for a city's well-being. Sage Gateshead, an iconic building, acts as a positive example that interprets its pragmatic role in generating and enhancing social engagement. The building's pragmatic role is embodied in its design concept, the management goals and the events taking place there. The building, therefore, is considered as a successful local project, since the idea of social engagement has been dynamically achieved and the pragmatic role has been specifically demonstrated.

The design concept, for Sage Gateshead, lies in the architects' ambitions of making the building an "Urban Living Room", represented in the form of textual and diagrammatic descriptions as well as the design of the physical space of the building. This concept comes from the architects' intention to understand and incorporate the function of the building, the circumstances of the site, social expectations and planning visions. As architects encounter these concerns, the concept arrives and the design is on its way to being shaped.

Once people get to use the space, these users come to have their own understandings of the building, and this is the way in which "pragmatic meaning" emerges. When events are carried out in the building day after day, "pragmatic meaning" increasingly grows in the building accordingly. "Pragmatic meaning" is neither unique nor permanent, but rather varies from time to time according to the different activities happening in the building and the people who are using the place. The physical space is created based on the design concept, which in turn provides room for actual experience, thus supporting the implementation of daily events and programmes. Since management goals and design concept have the same root of being concerned with social inclusion and diversity, events and

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44. Sage Gateshead, *Study Music at Sage Gateshead* (2017).
45. Sage Gateshead, *Accessible Music Learning* (2017).

programmes developed under management ideas correspond to the concept, therefore, the "pragmatic meaning" generated through actual experience further responds to the concept.

For Sage Gateshead, the concept exists prior to and independent from actual experience in the real space, and it is concerned with the liveliness of the space and with how the space is going to be used, thereby the concept is influenced by pragmatic concerns. As activities actually take place in the physical space, "pragmatic meaning" grows dynamically and enables the design concept to be realised in the space. Hence, in this way the concept and "pragmatic meaning" are associated and mutually impacted.

In brief, the design attitude this article tries to assert, is that a design concept is not merely about creating a symbolic image for a building, although symbolism is important for iconic buildings. The design concept ought to consider the way in which how space functions to promote better social engagement in the first instance, actual experience in real spaces needs to be a more central concern in the concept-making stage. Thus, a good architect might approach a commission with the intention of finding out the function of the building, the circumstances of the site, its culture, social demands, and will then work out a design that seeks to deal with all of these things, and at some point during this process a concept will arrive.

Acknowledgments

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Place as Assemblage:
Abstracting, Diagramming and Mapping

By Milica Muminovic[*]

Place is an ambiguous concept denoting various elements of the environment, both built and natural. There are a number of different philosophical approaches which examine the notion of place including those that focus on the morphology of the built environment and those deriving from phenomenology. However, most of the theories agree that place is more than what we can see, more than just a built environment and we can summarise the complexity of the built and social environments into one aspect and quality that we call - place identity. Different theories generate divergent methods for analysing place. Most approaches, however, develop an objective map of a place in which the subjective data are ignored. For this reason, this paper explores analyses that use subjectivity as a tool and asks to what extent the latter is effective in analyses of place? The intent of this paper is not to fully discard the objective mapping of place but to discuss other methods that can be used to fully understand its complexity. The paper also tests the effectiveness of the diagrammatic approach in place mapping. The definition of the diagram, which derives from both architecture and philosophy, is largely based on Vidler's theoretical explorations overlapped with the definition of the diagram from assemblage theory. The paper highlights two case studies which use diagramming as a mapping process for understanding place. Streets in Tokyo and Canberra are examined to see how objective data could be visualised to generate an objective or subjective place diagram. The paper argues that diagrammatic mapping involves a level of abstraction that is then read in ways that differ from the intentionality of the author. Thus, a diagram allows the process of layering subjective information during which reading becomes distanced from the original intention, standing as a pure visualisation that can transmit the feeling or the atmosphere and capture the complexity of a place.

Introduction

There are various philosophical approaches to defining place which contribute to the ambiguity of the concept. Different viewpoints on place derive from a range of disciplines interested in built environments. In addition to the various definitions of place, there are even more diverse attempts to analyse it. Some explore place from an objective and quantifiable perspective and are interested in large scales over long periods of time, for example urban morphology.[1] There are also those that focus more on the social aspects of place and urban grain. Others attempt to understand place through observations of peoples' behaviour.[2]

All these approaches endeavour to objectively observe, visualise and

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1. M. R. G. Conzen, "Urban morphology: a geographical approach," in *Thinking about urban form* (ed.) M. R. G. Conzen (Oxford, New York: Peter Lang, 2004), 145-48.

2. J. Gehl and B. Svarre, *How to study public life* (Washington, Covelo, London: Island Press, 2013).

represent place. Objectivity is important for understanding the environment, however, it does not exhaust the scope and complexity of a place.[3] If place is defined as something more than simple built form, then the analysis should aim to capture those aspects of place. Furthermore, it could be argued that to understand a place in its full complexity we need all these approaches to layer the data in order to come closer to a full description.

In addition to the complexity of defining place, another challenging aspect of its analysis is the concept of the spirit of the place or "genius loci."[4] Ways to describe the spirit of a place are largely subjective.[5] Each person defines her or his place. There have been some attempts to incorporate this subjectivity as part of the definition of place. Most prominent are those using the urban diary method[6] which notes and describes experiences in the city. These are captured as anectdotal explorations rather than visual and mapped experiences. The diary method is based on individual observations of the city and not on multiple subjectivities. There are also approaches where mapping relies on the creation of situations[7] to generate different understanding of a place. The aim in this case is to understand aspects of everyday life and ordinary perspectives, thus including a different kind of subjectivity as part of the selection process for the case study.

There have also been attempts to synthesize various analyses of place in order to generate a more complete understanding of it. One of these is a composite method that includes observations, interviews, diary and mapping techniques.[8] The approach consists of de-layering methods of analysis to understand various aspects of place, which are then re-layered in a map to decode a reality in a new way.

Most analysis of place is based on a number of mapping techniques. Mapping as a tool for analysis is not a simple representation of reality but has certain levels of abstraction and editing. The visualized elements in a map are carefully selected and displayed. The fact that maps are using the process of dissecting reality helps us understand the relationships between various elements in the map and read reality in a different way. Even the way in which elements are presented on the map define the direction of the reading and understanding of a place. Thus, each map contains a level of abstraction and subjectivity. Most often this process is based on the abstraction of objective data. However, there is no analytical approach based on mapping that aims to capture the subjective aspects of place. Therefore, the aim of this paper is to explore the diagram as a device to visualize and map the subjective experience of a place as analytical tool. The objective is to discuss whether the process of abstraction, that is inherently subjective, could be

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3. D. Radovic, *Subjectivities in Investigation of the Urban: The Scream, the Shadow and the Mirror* (Tokyo: flick Studio, 2014).

4. C. Norberg-Schulz, *Genius loci: towards phenomenology of architecture* (New York: Rizzoli International Publications, 1980).

5. P. Lefas, *Dwelling and Architecture - From Heidegger to Koolhaas* (Berlin: Jovis Verlag GmbH, 2009).

6. C. R. Wolfe, *Seeing the Better City. How to Explore, Observe, and Improve Urban Space* (London: Island Press, 2017).

7. S. Sadler, *The Situationist City* (Cambridge: MIT Press, 1999).

8. M. Sepe, *Planning and Place in the City. Mapping place identity* (London and New York: Routledge, 2013).

used as one of the tools to study place.

The first part of the paper summarises the definitions of place. The definition of place is related to subjective aspects including feelings, personal memory, and knowledge and presents a context for, and understanding of, why subjectivity is a significant element of analysis. Place is defined as a dynamic concept that derives from assemblage theory. Secondly, the definition of a diagram, and its applicability in analyses, is outlined using Anthony Vidler's theoretical explorations inherited from architecture and overlain with assemblage theory. Since place is defined as an assemblage and introduces the aspect of change, the same approach is applied to the definition of the diagram. Assemblage theory is largely based on materialism[9] and does not necessarily focus on subjectivities, however, it is an important attempt to avoid rigidity in the phenomenology and frames the analysis of place in its complexity.[10] Thus, definitions of both place and diagram are derived from assemblage theory and already established definitions that introduce aspects of subjectivity. Finally, two tests of the diagramming process are explained. The outcomes of those processes are used to discuss abstraction as a tool to understand the subjective aspects of place.

Place as Assemblage

There are two main philosophical approaches to place. One derives from phenomenology and it is explored in the work of Norberg-Schultz who appropriated the definitions from Heidegger's discussions on Being. According to this approach, a place is defined as a phenomenon that is constructed based on our experience of the built environment.[11] The space is experienced through our senses, however, that experience is never a simple perception.[12] It always includes our own understandings, knowledge, moods and feelings within that experience. Thus, place emerges through conscious and subconscious experiences and not from a simple observation, "…there is no place without self and no self without place."[13] As part of that experience, subjectivity is an important element and is manifested through feelings and thoughts.[14]

The subjectivity mentioned in definitions of place does not necessarily refer to the individuality of experiences. Individual experiences can never be separated from the community or collective definitions of place. Public images of place are constructed over time through consensus between different groups of people. Some places have a strong identity or sense of history, others do not. There are

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9. G. Deleuze, *Difference and Repetition* (New York: Columbia University Press, 1994), 222.

10. M. Muminovic, "Places as Assemblages: Paradigm Shift or Fashionable Nonsense?" *Athens Journal of Architecture* 1, no. 4 (2015): 295-309.

11. Norberg-Schulz, *Genius Loci: Towards Phenomenology of Architecture*, 1980.

12. J. Pallasmaa, *The eyes of the skin, Architecture and the senses* (Chichester: Wiley, 2012).

13. E. S. 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.

14. Y. Tuan, *Space and place: the perspective of experience* (Minneapolis: The University of Minnesota Press, 1977), 6.

also mass images around the experience of place as a result of mass media.[15] Thus, there is a kind of layering of individual experiences which create objective, public and common understandings of place. It could be argued that those experiences are complex, consisting of both individual and collective, or public perceptions of place.

Furthermore, the understanding of a place is built over time. Time and place are interrelated through practices as a framework for experiences.[16] To define a certain location as a place, we need time to experience that location, to get to "know" it. Visual characteristics of location are easy to grasp, however, to feel and to generate meaning we need longer and more exhaustive experiences of the location.[17] However, the fact that time has passed, and people have experienced a certain location, does not mean that they have been appropriating it as a place. There are locations that do not leave deep impressions on people and never become a place.

Place is thus a dynamic category that changes over time. However, all past experiences remain active memory fragments of present experiences. Those memories create meanings that we individually assign to a location that is emerging in interaction with the "world."[18] The meanings are bound to the physicality of a location, and at the same time are elements of subjective personal meanings that are shared through collective understandings of place.

In recent years, there is another approach which has emerged to define place. It is based on assemblage theory and aims to overcome elements of phenomenology and essentialism[19] and define place in its full complexity. Within this approach, place is an assemblage, an entity which recognises its non-linearity. The definition focuses on the relationship between elements. Assemblages are wholes whose properties emerge from the relationships between parts.[20] Those relationships comprise interiority and exteriority interactions; thus, assemblage is not a simple sum of its parts.

Instead of permanence, place as assemblage, focuses on change over time. Multiplicity is an important aspect of place and defines place through processes and change. The morphogenetic aspects of place are important for outlining "spaces of possibilities."[21] The place then is in a constant state of change that is becoming.[22] The past and present are part of becoming in which past "has not

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15. E. Relph, *Place and placelessness* (London: Pion Limited, 1986).

16. K. Lynch, *What time is this place?* (Massachusetts and London: The MIT Press Cambridge, 1972), 241.

17. Relph, *Place and placelessness*, 1986.

18. Norberg-Schulz, *Genius Loci: Towards Phenomenology of Architecture*, 1980, 170.

19. K. Dovey, *Becoming Places, Urbanism/Architecture/Identity/Power* (London and New York: Routledge, 2010).

20. M. Delanda, *A New Philosophy of Society- Assemblage Theory and Social Complexity* (London and New York: Continuum, 2006), 5.

21. M. Delanda, *Intensive Science and Virtual Philosophy* (London and New York: Continuum, 2002), 10.

22. G. Deleuze and F. Guattari, *A Thousand Plateaus Capitalism and Schizophrenia*. (trans.) B. Massumi (Minneapolis: University of Minnesota Press, 1987).

ceased to be."[23] Multiplicity replaces the essence that denotes the constancy of any place and represents a framework that guides the change.[24] Place is observed as a dynamic set of processes that emerge from intensity. The difference in intensities is an important aspect of the individualisation processes of any place.[25] Furthermore, individualisation is based on the morphogenetic processes that can be divided into two groups: intensive and extensive properties. The difference between intensive and extensive magnitude is based on divisibility, the former being indivisible and the latter, divisible.[26] In physics, those qualities could be described using the example of a room. If we divide the room into two, the volume of the room will represent the extensive property, as it is divided into two halves, but the temperature of the air might be considered as intensive property as it did not change upon the division. Some examples of intensive properties are related to emotions and thus are subjective aspects: joy, love, hate, grief, beliefs, desires, and so forth. In the definition of place, extensive properties are defined as measurable, objective or tangible and intensive properties refer to the subjective aspects of place.

For this paper, assemblage theory is applied in discussions of the complexity of place and defines it as a changing entity. By generating relationships between various descriptions, we arrive at a more comprehensive understanding of place. In this sense, both subjective and objective elements become part of the analysis. In addition, the idea of capturing the intensive aspects of place, those that are highly subjective, provides a basis for a more complete definition of place.

The Diagram

'*Diagram*' has in recent decades become a popular term that is used not only to describe an analytical tool, but also a method of design and a kind of architecture (for example Toto Ito's characterization of Kajuyo Sejima's architecture as diagrammatic). The common ground for the proliferation of diagram in architecture results from the increasing production of digital technologies. Those techniques are defined as "digital experiments" in morphological studies.[27] Diagrammatic architecture is a term that is used to criticize the simplicity of modern architecture.[28]

The etymological meaning of the word *diagramma* derives from both Latin and Greek, and *s*ignifies something that is symbolised, figured, traced, written or

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23. G. Deleuze, *Bergsonism* (trans.) H. Tomlinson and B. Habberjam (New York: Zone Books, 1991), 51.

24. Delanda, *Intensive Science and Virtual Philosophy*, 2002, 59.

25. Deleuze, *Difference and Repetition*, 1994.

26. M. Delanda, "Space: Extensive and Intensive, Actual and Virtual," in *Deleuze and Space* (ed.) I. Buchanan and G. Lambert (Edinburgh: Edinburgh University Press, 2005), 80-88.

27. A. Vidler, "Diagrams of Diagrams: Architectural Abstraction and Modern Representation" *Representations* 72, no. 5 (2000).

28. Ibid, 8.

drawn, thus something that is visualised.[29] The word is composed of the Greek *dia*, meaning across or between the two and *gramma* that defines a figure, line or mark.[30] Diagrams differ from simple representations of the object because they depict only selected aspects of the reality of the original object and also denote relationships. Diagrams could be defined as being both real and ideal, objective and subjective, reductive and generative.[31] Thus, the way in which diagrams are read or interpreted has an important layer of subjectivity.

Diagrams have a long history of development in architecture including the nine-square, the Panopticon, the Dom-ino, and Rudolf Wittkower's diagrams of the Palladian Villas from 1949. In modern architecture, drawings show an increasing tendency to depict abstract objects stripped from decorative elements, which leads to criticism that it reduces complexity and is oversimplifying and alienating. Diagrams differ from simple drawings. They are not only an analytical tool but are used as a projective device that emphasizes the virtual rather than the real.[32] Because of these characteristics, diagrams are often part of the design and link to the drawing. The idea of drawing as imagining, or as a process of production of architecture, was abstracted to a diagram in Modernism and today is completely dissolved with the advent of new technologies.[33]

Diagrams in assemblage theory are also not simple visualising tools but represent the characteristics of morphological processes inherent in the material world.[34] This approach opposes essentialist perspectives that attempt to define the essence of the object to be visualised with the diagram. Thus, instead of having only one essence that represents a place, in assemblage theory there are multiple ways of describing and visualising a place. This process merges objective and subjective within a number of potential diagrams as a visualising device of a layered reality.

Since diagrams focus on the processes and relationships between various elements—not only those that are existing (describing) but also potential relationships (multiplicities)—they could be considered to be the best means to engage with the complexity of the real.[35] While defining the semiotics, Peirce explains an important aspect of diagrams.[36] For Peirce, diagrams mark the internal and external relations of their objects in abstract mode. Thus, they are useful devices for thinking, as they reduce the number of details and allow the mind to focus on important features. The abstraction as creative process includes

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29. M. Garcia, "Histories and Theories of the Diagrams of Architecture," in *The Diagrams of Architecture* (ed.) M. Garcia (Chichester: Wiley, 2010), 22.

30. A. Vidler, "What is a Diagram Anyway?" in *Peter Eisenman Feints* (ed.) S. Cassara (Milan: Skira Editore, 2006), 16.

31. Ibid, 25.

32. Vidler, Diagrams of Diagrams: Architectural Abstraction and Modern Representation, 2000, 16.

33. Ibid.

34. M. Delanda, "Deleuze, Diagrams, and the Genesis of Form," *Amerikanstudien/American Studies* 45, no. 1 (Chaos/Control: Complexity, 2000), 34.

35. S. Allen, "Diagrams Matter," in *Diagram Work*, no. 23 (ed.) B. van Berkel and C. Bos (New York: Anyone Corporation, 1998), 17.

36. M. Arnold, "Images, diagrams, and narratives: Charles S. Peirce's epistemological theory of mental diagrams," *Semiotica* 186, no. 1 (2011).

permutation and transformation.[37] Diagrams emerge in the process of selective abstraction that reduces reality to a concept of phenomenon.[38] Furthermore, diagrams are abstractions that represent phenomena by focusing on spatial relationships.[39] In Modernism, abstraction is considered to be an "aesthetic quality."[40] It reduces the project to its essence, the idea that demonstrates the relations within elements and their surroundings. However, diagrams are not realistic representations of relationships, they only indicate spatial relationships.[41]

Diagrams also represent a range of moments in the state of the object, where its elements are in various conditions of equilibrium,[42] opposed to the idea of seeking the essence, which is the only one ideal state. Those are defined as "diagrammatic spaces of energetic possibilities."[43] Diagrams are not representations of the form and the "real." They are not only an abstraction but "representation of something in that it is not a thing itself,"[44] "neither substance nor form, neither content nor expression."[45] Diagrams should be distinguished from signs, images and drawings. Image reproduces a particular thing whilst diagrams focus more on a functional articulation of a thing[46] and they are a "real yet to come, a new type of reality."[47]

The diagram is abstract and is not a visual archive, rather, Deleuze refers to it as cartography, as a map. "It is an abstract machine."[48] Furthermore, in assemblage theory diagrams are spatio-temporal multiplicities. "The diagram or abstract machine is the map of relations between forces, map of density, or intensity, which proceeds by primary non-localizable relations and at every moment passes through every point, or rather in every relation from one point to another."[49] According to Deleuze, diagrams also represent change, they do not signify persisting aspects of the entity but generate a new kind of reality. Even though Deleuze refers to the diagram as a map that defines relationships, the application of the diagram for analysis in urban scales is underexplored. This paper therefore discusses aspects of the usage of the diagram as a mapping technique.

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37. A. Vidler, "What is a Diagram Anyway?" in *Peter Eisenman Feints* (ed.) S. Cassara (Milan: Skira Editore, 2006), 20.

38. Garcia, *Histories and Theories of the Diagrams of Architecture*, 2010, 18.

39. E. Yi-Luen Do and M. Gross, "Thinking with Diagrams in Architectural Design," *Artificial Intelligence Review* 15, no. 136 (2001).

40. Vidler, Diagrams of Diagrams: Architectural Abstraction and Modern Representation, 2000, 20.

41. Yi-Luen Do and Gross, "Thinking with Diagrams in Architectural Design," 2001, 137.

42. Delanda, "Deleuze, Diagrams, and the Genesis of Form," 2000, 34.

43. Ibid.

44. P. Eisenman, *Diagram Diaries* (London: Thames and Hudson, 1999), 27.

45. Deleuze and Guattari, *A Thousand Plateaus: Capitalism and Schizophrenia*, 1987, 141.

46. G. Genosko, *The Guattari Reader* (Oxford: Blackwell Publishers Ltd., 1996), 17.

47. Deleuze and Guattari, *A Thousand Plateaus: Capitalism and Schizophrenia*, 1987, 142.

48. G. Deleuze, *Foucault* (trans.) S. Hand (London: The Athlone Press, 1988), 34.

49. Ibid, 36.

Method: Diagrams and Place

Explorations of place are generally visualised through maps. Maps are drawings that aim to represent reality, define orientation and objectively transmit space. On the other hand, definitions of place suggest that there is an important aspect of that reality that is defined through experience and intensity, as well as through potential and existing, interior and exterior relationships. The brief summary of the literature around the diagram defines it as a device that merges the real and the virtual, describing an entity not through its presentation but through potential relationships and multiplicities. This indicates that one of the most important aspects of the diagram is abstraction and the fact that the diagram is not a simple representation of reality. This is the main difference between the map, traditionally used to analyse place, and the diagram as a potential tool that can represent any entity. A map always refers to an actual reality, whereas a diagram does not necessarily represent the actual space. Diagrams visualise only certain characteristics or the relationships within an entity. In addition, the aspect of abstraction, and thus subjectivity in the diagram, is present not only at the level of generating a diagram, but also at every next reading of it. Thus, in this paper, subjectivity is captured during two steps: the process of generating the diagram and its reading.

Since diagrams derive from abstraction processes, there is no singular reading of diagrams.[50] This includes the "reading" of diagram within individual processes that further enhance layering of multiple subjectivities. In addition, diagrams describe not only the current reality but also the potential states of the entity, virtual spaces, and therefore capture the emerging aspects of the place which are in constant change.

Based on the literature review of the definitions of place and diagram we can outline similarities that demonstrate the importance of utilising diagrams in analysis of place. Those similarities are summarised below using three main aspects of place (Table 1).

Table 1. *Comparison of Characteristics of Place and Diagram*

place	diagram	characteristic
subjective intensive properties	abstraction	defining only partial and different representation of place
complex	relationships	layering of interiority and exteriority relationships
emerging	multiplicity	there is no single state but multiple and potential states

To test the application of the diagram for analysis of place the author uses two case studies: one approach merges objective and subjective processes whilst the other explores diagram based entirely on subjectivity. The former case focuses the physical aspects of the place and transforms the objective observations from the space into subjective experience based intensity. The

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50. Allen, "Diagrams Matter," 1988, 20.

abstraction is applied in the second stage of the analysis by removing the direct link to the visual aspects of reality (in this example the street). The latter case represents a different approach in which abstraction is present from the beginning of the analysis. The whole process is subjective. There is a layering of subjectivity at the stage of understanding a place and subjectivity is incorporated as part of "reading" the diagram. Comparing the two different approaches to the analysis of place, the paper discusses the levels of abstraction and subjectivity and how these contribute to our understanding.

Results: Diagramming the Place

The first case study explores the mechanism of abstraction of real, measurable data to visualise experience in the street. The analysis focuses on the presence of ephemeral objects in the narrow *roji* (alleyways) in Tokyo's Nezu district. The diagrams developed compare the quantity and distribution of ephemeral objects along the streets and reveal the intensity and sense of domesticity. Because of the density and size of the blocks and streets, and the presence of personal belongings as ephemeral elements on the street, it has been argued that narrow lanes in Tokyo contain a unique experience of traditional character. Due to the small spaces in apartments and houses, the alleyway is considered as a semi-public, semi-private space appropriated by the residents. This appropriation manifests as small potted plants and personal belongings revealing traces of inhabitation. The atmosphere is experienced while walking through the streets and is three-dimensional when including the alleyway as a whole. The aspects of the built environment that affect the experience include the size of the streets, their openness and closeness, as well as ephemeral objects. Mapping the elements would not reveal the whole experience but only the quantity of the objects. Therefore, the proposed abstraction technique focuses on capturing and comparing the character of the streets by distribution of those ephemeral elements in three-dimensional space, and when time is included, in four-dimensional reality. The focus of the analysis is on the experience of familiarity and the domestic atmosphere in the small alleyways in Tokyo.

The first stage of analysis captures data from the field, taking photos and mapping ephemeral elements. Photos are taken along the streets both due to their narrowness (these streets are 1-2 m wide) and because it is the most effective way to capture the presence of the objects. Because the streets are so narrow it is impossible to capture the façade of the building. Once photos are taken every 7.5m along the street (determined to be the most appropriate distance to note changes in scenery), the elements are mapped, and the quantity of visual coverage is measured (Figure 1). The measurement used is the coverage of pixels as a percentage. Based on the scale of coverage of ephemeral objects, classes are created with each photograph corresponding to one section of the stripe. This generates a coded stripe that shows only the distribution of the density of ephemeral elements. At this stage, abstraction has completely separated the information on the stripe from the real space by generating a diagram. Once the

process of abstraction has transformed the actual experience of the street to the stripe, based on the unifying and objective principle of classification, the diagram can be reinterpreted in various ways. Using this diagram, a greater number of streets are compared in order to understand the whole neighbourhood (Figure 2). In this case, the stripes are an abstracted experience of the density of ephemeral objects along the alleyways, but visually have no connection to the real space. The visualization is based on real data and the whole process reduces subjectivity to a minimum. The intensity of the experience of domesticity is read through the constant change in the density of ephemeral objects.
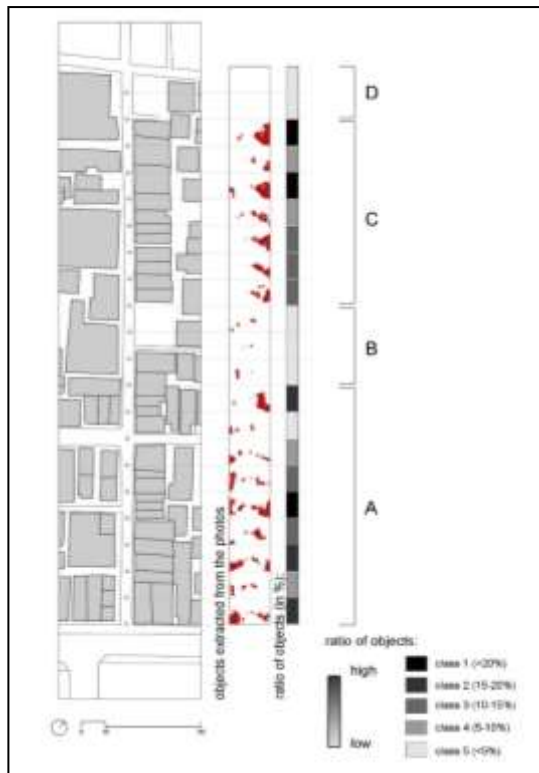
Figure 18. *Diagramming Process of a Roji in Tokyo*
Source: Author, 2013.

The comparative analysis of streets has shown that there is diversity in the presence of ephemeral objects along the street. This diversity amplifies the experience of the domestic as there is constant discovery and change from a range of almost no ephemeral elements, to many. This is how the intensity of the experience has been created: within difference and repetition (Figure 2).

The second example starts with abstraction and focuses largely on subjectivity. The aim was to discover how people experience Canberra's public spaces through their quality and connectedness.[51] Canberra is a planned and highly car dependant city. Public spaces are mainly natural open public spaces or interior

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51. This project is a result of work undertaken in the honours thesis by Nathan Paulleto: "Communicating the Incommunicable" 2016, funded by a grant from the Early Career Academic Research Development Program at the University of Canberra.

privately owned public spaces (PoPs). Understanding the quality of the street is challenging, as pedestrian movement is limited and traditional methods of behavioural and spatial analysis was found not to be effective for understanding the potential hidden quality of the places. Thus a different method was applied that included abstraction and subjectivity in order to discover the place's potential.
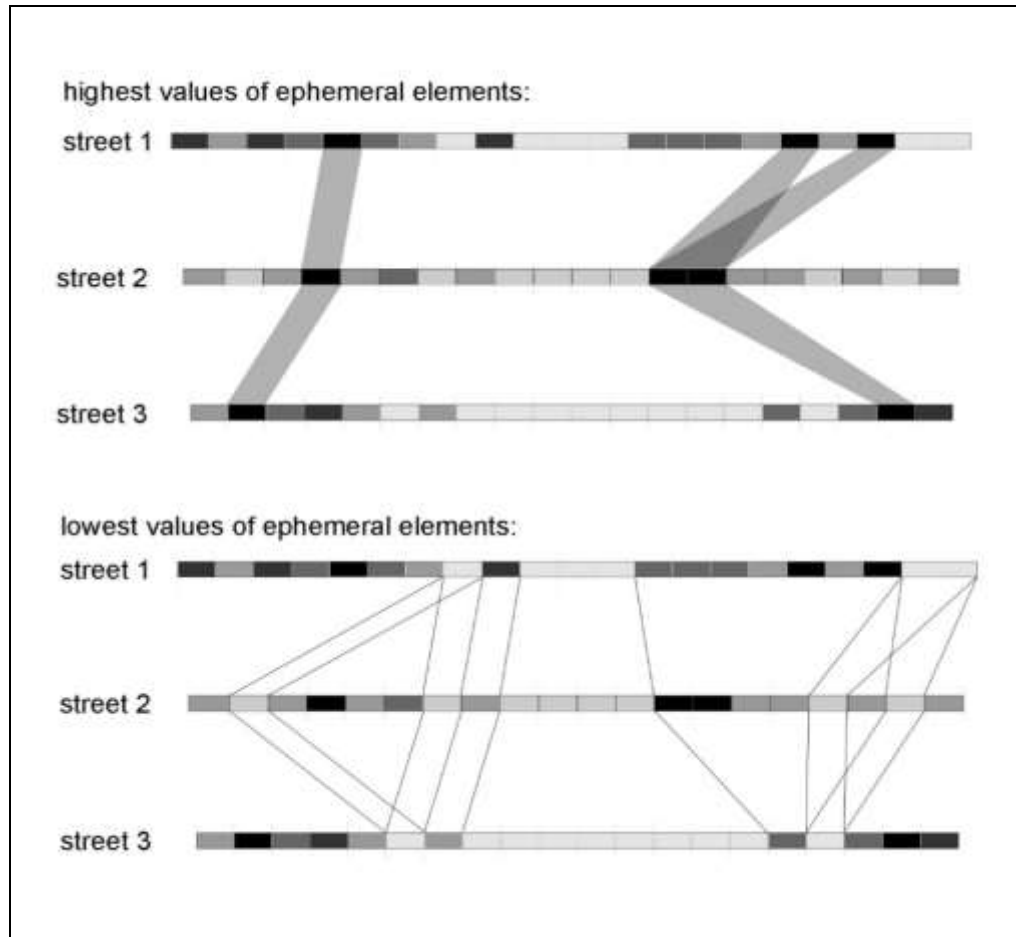
Figure 19. *Comparison of the Stripes along Three Streets in Nezu*
Source: Author, 2013.

The first step undertaken in the project was to transform the real map of Canberra into an abstract grid of points (Figure 3). The rationale for doing this was that each viewer could reinterpret the map individually and subjectively. Thus, the abstraction process took place at the beginning of analysis. The map was abstracted to a number of points and their density simulated the density of the built environment. In order to generate multiple subjectivities, an interactive activity was created using a board that asked people to weave their regular and favourite routes in the city, with a little guidance on how to "read" the abstract map of Canberra. Each person interpreted the scale of the map based on his or her memory and experience. Once each person finished weaving the places, they were asked to explain the map. After the diagram was overlaid with the real map, the analysis of differences revealed how people's experiences created a new, distorted

map of the intensities of spaces (Figure 4). The gravitational points in real space and fields of intensity demonstrated relationships and the sense of place (Figure 5). In this case, the mapping of Canberra began with objective data that represents Canberra, a map. This map was transformed into an abstract grid and finally the reflection on collective weaving represents the subjective reading of multiple subjectivities. Standing alone, without interpretation, this map is an abstract image that could be read from many different angles.
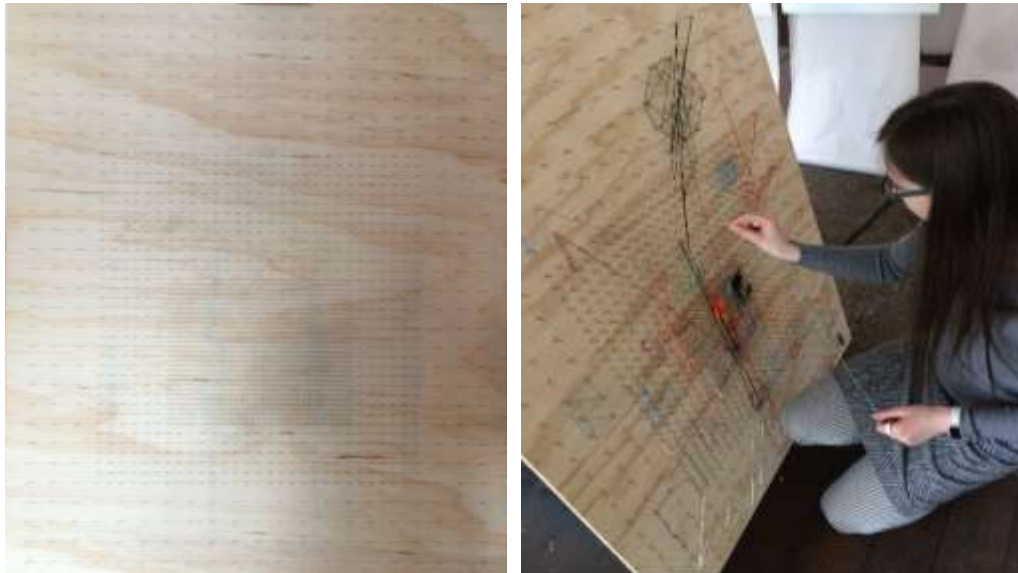
Figure 3. *Interactive Board as the Beginning of Mapping Process*
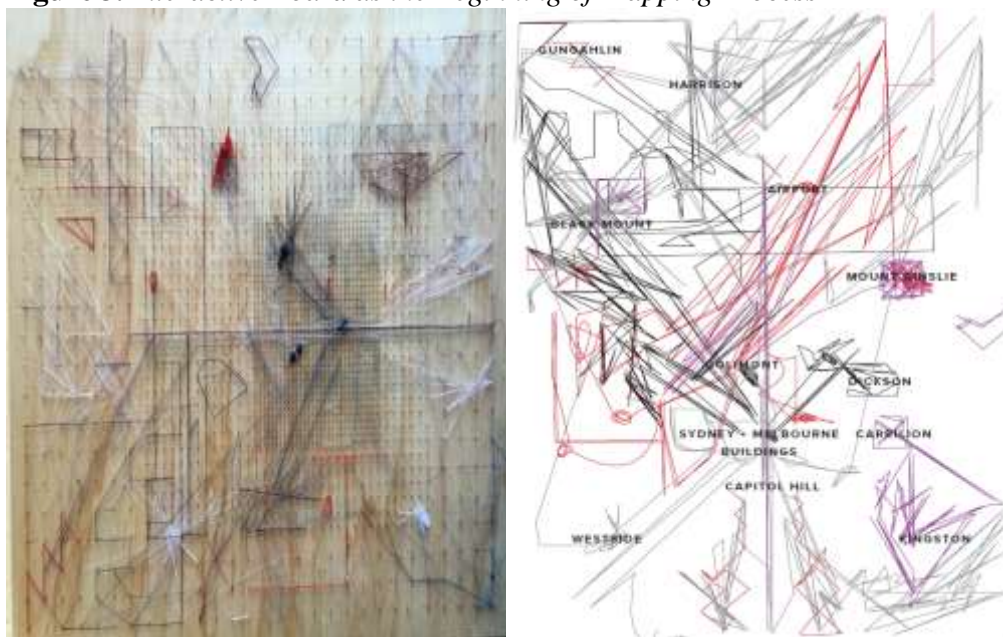
Figure 4. *Transforming the Abstract Map to the Real Space Map*
Source: Pauletto and Muminovic, 2016.
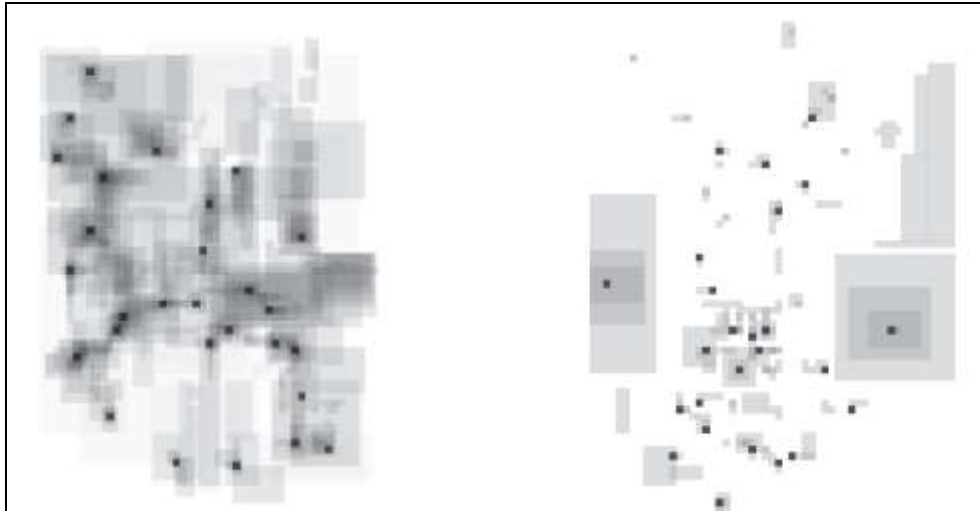
Figure 5. *Transformation of Collective Data and Reinterpretation (left: Reinterpretation of Collective Diagram; right: Reinterpretation of Actual Spaces on the Map)*
Source: Pauletto and Muminovic, 2016.

Discussion: The Process of Abstraction

Through the process of abstraction, each case study has revealed different information about the place in question that could not be revealed within the limits of traditional mapping techniques. In the case of Nezu, the analysis confirmed that ephemeral elements on the streets create the sense of domesticity. More importantly, these diagrams have demonstrated how that process actually emerges. The relationship between various elements in the street generates dynamic experiences while walking along the roji and because of the changes in density of ephemeral objects there is a constant sense of surprise—thus the presence of these ephemeral elements becomes amplified (Figure 1 shows the zones of high and low density of ephemeral elements through sections A-B-C-D). The actual number of elements differs from the experience of their size and quantity. The diagrams also reveal relationships between those elements. The diagrams do require decoding in order to read them, however they clearly show the quality of the space based on the intensity of ephemeral elements. This characteristic follows on from Deleuze's definition of the intensive properties of place that define its atmospheric qualities and subjective experiences.

On the other hand, the Canberra's case study demonstrates the challenge within the second stage of the reading process. The final diagram is reinterpreted in a different manner as it demonstrates the character of the spaces and their connections. The process has revealed that the visualising method of abstraction creates a state in which reading the intensity is experienced differently. The main result of the analysis focuses on the fact that our perception of relationships between places demonstrates more connectedness than is present in reality (Figure 5).
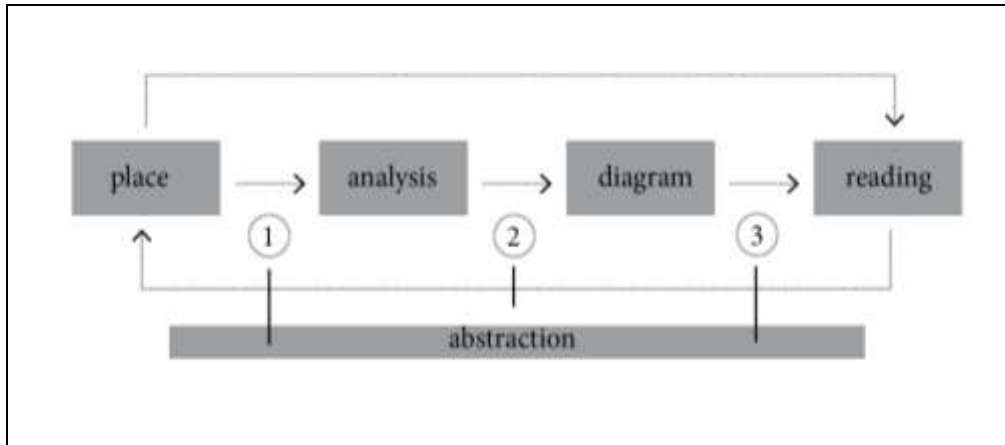
Figure 6. *The Process of Abstraction in Diagramming the Place*
Source: Author, 2018.

The two cases of mapping have shown that depending on how and in which stage of the analysis the abstraction process is applied, it will generate various levels of subjectivity (Figure 6). In the Tokyo case study, the process is clear because diagrams are generated based on the measurable and objective data which is produced in stage (2). Although after the abstraction there is no direct link to the actual space, it is still comprehensible as the spatial quality of the streets in Nezu. On the other hand, in Canberra's case abstraction is introduced in the early stage of the analysis (1) and the whole process deliberately reduces the sense of scale. Thus, although generated with the layering of subjectivities, the whole process multiplies abstraction and has little connection to the real space. In this case, the link between the actual space and the diagram is difficult to follow. The final reading of the diagram varies. Every reading of the diagram introduces another level of subjectivity, as each person needs to restore the link to actual space and thus re-imagine the urban quality, a sense of constant becoming.

The abstraction in the case of Nezu is organised according to one spatial dimension, whilst the abstraction in Canberra is two-dimensional. Namely, the linearity of the street in Nezu is followed through into the shape of the diagram but in Canberra's case the abstraction is based on two-dimensions and the reference points in real space are difficult to follow.

Conclusions

Virtual elements are present in both Vidler's and Deleuze's definition of diagram and are an important part of the subjectivity required to understand a place. The virtual elements are not real; however, they are possible as they are generated through individual readings of either the place itself or in the relationship between the place and its experience. Although assemblage theory does not discuss experience as part of the definition of a diagram, this is evident as an important element in both case studies and is interpreted through the intensive properties of place. Differences in the density of the built environment are

confirmed to generate intensity of experience. The intensity emerges over time in the relationship between densities.

The "misreading" of an abstracted map or a diagram might be considered a potential tool to explore the meaning of a place, with every next reading involving a new layer of subjectivity. The place diagram grows through countless layers of readings and the meaning of place emerges in between those readings. This element explores the place as becoming. The analysis has also shown that the element of abstraction also becomes the element of arbitrary manipulation. However, this process enhances the subjectivity of understanding the place. Each individual reading of the diagram and map adds another layer of subjectivity and multiplying subjectivities in addition to objective data, define the place in its complexity. Thus, multiplicity in a diagram is generated any time there is a new reading of the exiting diagram.

The question of the stage at which abstraction should be used needs further exploration. As a method, abstraction in diagrams has shown that it provides a good base for a subjective reading of a place: thus it is one aspect to be included in the readings of place, not as an independent analysis.

Acknowledgements

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Despite Resemblance - Scale Models and the Representation of Architectural Objects

By João Miguel Couto Duarte[*]

The challenge of exploring 'Inter and Transdisciplinary Relationships in Architecture' might be embraced as a possibility to outward as much as to inward the comprehension of architecture and its design. This paper aims to reconsider the relationship between scale models and architectural objects after Nelson Goodman's discussion about resemblance and representation in 'Languages of Art', thus allowing a new understanding of the role of architectural representation in architectural design. In 'Languages of Art' the still common belief that representation profits from some sort of resemblance to its object is deemed untenable. It is strictly arbitrary the relation between one and the other. That is why – Goodman remarks – "almost anything may stand for almost anything else." Drawings and photography might confirm Goodman's statement since only a convention seems to allow the recognition of a three-dimensional object in a bi-dimensional one. But that is not the case with scale models. Due to its nature it remains comfortable to think about a scale model as having a natural resemblance to an architectural object, thus seeming its closest representation. Nevertheless Goodman's proposals must be considered. Also scale models must be scrutinized as strictly arbitrary representations, resting upon a system of conventions instead of a set of proprieties shared with the architectural object it is meant to replace. And being confirmed its strictly arbitrariness, that is, being confirmed that is devoid of any natural relation with its subject, scale model's role in architectural design must also be scrutinized. This paper will first discuss scale models' representational nature and, subsequently, how the radical difference it holds from the object thus represented matters to architectural design. Scale models ought to be comprehended despite the resemblance deluded with the architecture they allow to envision.

Initial Considerations

"The deceptively convincing nature of models can easily mislead one into ignoring their essentially fictitious representational character as well as their inherent high degree of abstraction."[1]

Alongside other systems of representation, scale models are still trusted by architects to invent the world.

Scale models are singular representations. Being singular because of all forms

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1. C. Gänshirt, *Tools for Ideas an Introduction to Architectural Design* (Basel Boston Berlin: Birkhäuser Verlag AG, 2007), 153.

of representation at the architect's disposal scale models seem to be the closest to architectural objects. As the architectural objects, scale models have a three-dimensional existence and are the outcome of a building like process. Between one and the other there seems to be a natural resemblance, sometimes enhanced by the fact that a scale model might stand as a *quasi*-architectural object. Large sized walk-in scale models confirm it.

But scale models are also singular representations because it still remains largely unacknowledged the nature of the links that allow them a relation with architectural objects. Apparently those links are warrant because scale models reproduce some of the proprieties held by the architectural object they are meant to replace, by virtue of sharing with those objects the aforementioned three-dimensional existence. Hence the natural resemblance that seems to exist between them and the common classification of a scale model as an iconic model.[2] But that seeming capacity of reproducing proprieties cannot hide the differences that will always stand between a scale model and an architectural object, even because there is more than just an algebraic operation involved in the scalar conversions usually required by a model. And a scale model differs from the architectural object it represents by size, by shape, by material, by structural behaviour. Nevertheless, that distinction is more than just a constraint since it proves necessary to establish representation. Only being distinct from its object enables a scale model to replace and represent an architectural object. If a scale model reproduced an architectural object in all its complexity and completeness it would be that object and not a representation of it. But the extent and the consequences of that difference are still unclear.

The relation between a scale model and an architectural object thus convokes an inquiry. Alongside a seeming natural resemblance, or perhaps rather than it, it must be considered the possibility of that relation relaying, at least partially, if not totally, in a set of artificial links, maybe even arbitrary ones, in a system of conventions that allows one object to be taken as another object, thus becoming a scale model of an architectural object. But another inquiry is convoked. Being confirmed that the relation between a scale model and an architectural object relies strictly upon a system of conventions instead of a seeming resemblance, and being confirmed that are strictly arbitrary the links bounding one to the other, the difference standing between a scale model and an architectural object turns out radical, ruling out any propriety sharing with architectural objects by which scale

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2. "With the physical model, the physical characteristics of reality are represented by the same or analogous characteristics in the model. It can be divided into two categories: [...] [t]he first is called 'iconic', in which 'the physical properties are represented only by a change of scale' R. Ackoff, S. Gupta and J. Minas, *Scientific Method. Optimizing applied research decisions* [New York & London: John Wiley & Sons, 1962]. This class includes architectural models, photographs, etc. […] The second is called 'analogue', and here 'the physical properties of the real world are represented by different proprieties.' C. Churchman, R. Ackoff and E. Arnoff, *Introduction to Operations Research* [New York & London: John Wiley & Sons, 1957]. This class includes maps, plans, graphs, etc." M. Echenique, "Models: a discussion," in *Urban space and structures* (ed.) L. Martin and L. March (Cambridge: Cambridge University Press, 1975), 172. Echenique paraphrases Ackoff, Gupta and Minas, *Scientific Method. Optimizing applied research decisions*, 1962, 109 and Churchman, Ackoff and Arnoff, *Introduction to Operations Research*, 1957, 158.

models are still enjoyed. The role of scale models in architectural design must therefore be revaluated.

Scale models' enchantment must be overcome.

Representation, after Goodman

Resemblance Reconsidered

The scope of this reflection must now be enlarged in order to cover representation on a wider meaning.

Representation is addressed by Nelson Goodman in 'Languages of Art.'[3] Goodman states his goal as "an approach to a general theory of symbols,"[4] being 'symbol' used "as a very general and colorless term. It covers letters, words, texts, pictures, diagrams, maps, models, and more, but carries no implication of the oblique or the occult. The most literal portrait and the most prosaic passage are as much symbols, and as 'highly symbolic', as most fanciful and figurative."[5]

The importance of resemblance to explain representation is dismissed by Goodman at the very beginning of his exposition. Goodman points out the feebleness of how representation is commonly approached. Resemblance fell short to explain representation. "The most naïve view of representation might perhaps be put somewhat like this: "*A* represents *B* if and only if *A* appreciably resembles *B*", or "*A* represents *B* to the extent that *A* resembles *B*."[6] The faults of this view are exposed by Goodman as 'obvious enough'. "An object resembles itself to the maximum degree but rarely represents itself; resemblance, unlike representation, is reflexive. Again, unlike representation, resemblance is symmetric: *B* is as much like *A* as *A* is like *B*, but while a painting may represent the Duke of Wellington, the Duke doesn't represent the painting. Furthermore, in many cases neither one of a pair of very like objects represents the other: none of the automobiles off an assembly line is a picture of any of the rest; and a man is not normally a representation of another man, even his twin brother."[7] So, Goodman concludes: "[p]lainly, resemblance in any degree is no sufficient condition for representation."[8] And if it is still insisted upon, resemblance should better be sought between representations, not between a representation and the object its stand for. "A Constable painting of Marlborough Castle is more like any other picture than it is the Castle, yet it represents the Castle and not another picture – not even the closest copy."[9]

Goodman reconsiders representation. For an object to represent another object it must 'be a symbol for it', it must 'stand for it', it must 'refer to it'. Resemblance

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3. N. Goodman, *Languages of Art: an approach to a theory of symbols* (Indianapolis/ Cambridge: Hackett Publishing Company, Inc., 1976).

4. Ibid, xi.

5. Ibid, xi.

6. Ibid, 3.

7. Ibid, 4.

8. Ibid, 4.

9. Ibid, 5.

is thus proved not only insufficient but also dispensable to representation. Resemblance is no condition for a reference to. After all, Goodman remarks, "almost anything may stand for almost anything else."[10] If representation must refer to the object it stands for, denotation turns out key to representation. And if denotation turns out key to representation, the limits between a pictorial representation of an object – or an architectural scale model of it, one might consider – and a verbal description of the same object blur. In both cases, an object is referred to by another object. Despite the differences that are still possible to identify between them, a picture emerges as much as the result of a system of conventions as a verbal description does. Arbitrariness is unveiled as permeating representation – arbitrariness not because representation is the outcome of a discretionary will from its author, but because it is devoid of any natural relation with the object being referred to. Things are not recognizable due to resemblance; things are recognized as being resembling.

Representation might be understood as an encounter between two distinct objects: the one that refers to and the one being referred to, which may or may not be an extant one. Proprieties pertaining to the former are recognized as proprieties pertaining to the latter. But no propriety transfer should be sought in this process, since pertaining to objects proprieties are not transferable. And no propriety reproduction should be sought either. It is a coded equivalence of proprieties that is to be considered here. "A perceptual equivalence is established between representation and represented through which representation evokes the proprieties belonging to the thing being represented *as if* it were there, not being in fact."[11] One must nevertheless acknowledge that this is neither a direct, nor a guaranteed process. Because it rests upon the existence of a system of codes by which meaning is established, representation requires an interpretation, thus being dependent on each person's observation – on his memories, on his context, on his expectations. "Nothing is seen nakedly or naked."[12] And one must also acknowledge that this is not a self-enclosed process. Because it is framed within a given cultural context, each representation is backgrounded by the standard systems of representation existing on that context – which are predominantly 'realistic' on western culture – and evaluated according to those systems' current validation criteria – which are based on resemblance on 'realistic' systems.

Goodman draws the meaning of resemblance in representation after questioning the meaning of realism. "Realism is relative, determined by the system of representation standard for a given culture or person at a given time."[13] That is why 'realistic representations' throughout history look so different from one another. Realism must be thought based on expectations, and it must not be confused with correctness, the latter being determined by how rigorous the

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10. Ibid, 5.

11. Translated by the author. Original text: "*estabelece uma equivalência perceptiva entre representação e representado através da qual a representação evoca as propriedades da coisa representada* como se *ela lá estivesse, não estando de facto.*" P. Janeiro, *Origens e Destino da Imagem: para uma fenomenologia da arquitectura imaginada* (Lisboa: Chiado Editora, 2010), 218.

12. Goodman, *Languages of Art: an approach to a theory of symbols*, 1976, 8.

13. Ibid, 37.

information about the object represented is according to the rules of the representational system taken, and the former being determined by how coincident that system is with the current standard one. "Realistic representation, in brief, depends not upon imitation or illusion or information but upon inculcation. [...] If representation is a matter of choice and correctness a matter of information, realism is a matter of habit."[14] There rests the key to understand resemblance. The recognition of a resemblance denotes not only an equivalence between proprieties pertaining to a representation and proprieties pertaining to the object it refers to, but also the permanence of the models and the systems of representation underneath that recognition.

No longer is about verifying that a picture representing nature is more like any other picture then nature itself – that was the meaning of Goodman's remark about a supposed Constable painting of Marlborough Castle; rather, "That a picture looks like nature often means that it looks the way nature is usually painted."[15]

Resemblance is a result of representation, not a condition to accomplish it.

'A Theory of Notation'

As aforementioned Goodman stated his goal for 'Languages of Art' as "an approach to a general theory of symbols,"[16] being 'symbol' used "as a very general and colorless term."[17]

Goodman constructs his theory from the notion of 'reference' – as much as 'symbol', 'reference' is taken as a very general term. 'Referring to' is the condition that allows something to be a symbol for something else. Something may 'stand for' something else if it 'refers to it'. And, one must remember Goodman's remarks, "almost anything may stand for almost anything else."[18] Reference underlies all forms of symbolizing.

This is Goodman's departure point, from which his inquiry might be foreseen, as pinpointed by Capdevila-Werning. "This primitive relation constitutes the keystone of the theory and as such cannot be defined by any external notion, but is rather elucidated by the different modes in which reference takes place."[19] Goodman is focused on systems of symbols rather than on kinds of symbols. How a symbol means must not be confused with what a symbols means. And a symbols means only within a symbol system. No symbol has a meaning by itself, and no meaning resists outside the symbols system within which it was perceived. "The modes of reference are how a symbol means; what a symbol means is determined by the symbol system."[20] Goodman's theory undertakes a unified approach to both linguistic and non-linguistic systems of symbols, used as much in art as in sciences and in everyday life. There lays Goodman's understanding of arbitrariness.

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14. Ibid, 38.
15. Goodman, *Languages of Art: an approach to a theory of symbols*, 1976, 39.
16. Ibid, xi.
17. Ibid, xi.
18. Ibid, 5.
19. R. Capdevila-Werning, *Goodman for architects* (London and New York: Routledge, 2014), 32.
20. Ibid, 32.

Considering that "[a]ny symbol scheme consists of characters, usually with modes of combining them to form others,"[21] a system of symbols consists of "a symbol scheme correlated with a field of reference."[22] Each character comprehends all marks – visual, auditory, etc. – that have a correspondence with it, being that correspondence determined by the rules of the scheme. A letter from the Latin alphabet, for instance, comprehends all its oral expressions and all its graphic inscriptions. Symbols schemes are organized according to syntactic rules; symbol systems of are organized according to semantic rules. Symbol systems differ among each other due to their semantic and syntactic features. "Depending on whether these features are more or less strict, one can classify the kinds of systems in a continuum that ranges from differentiated or attenuated to non-differentiated or dense systems."[23]

Goodman distinguishes the different kinds of symbol systems departing from notational systems, for being the ones with the strictest correlation between symbol schemes and fields of reference. "Notations [...] can be placed at the differentiated end of the variety of symbol systems."[24] A score is a notational system. "Not only must a score uniquely determine the class of performances belonging to the work, but the score (as a class of copies or inscriptions that so define the work) must be uniquely determined, given a performance and the notational system."[25]

A notational scheme is therefore marked by a 'character-indifference', and each character has to be 'finitely differentiable' or 'articulated'. The Latin alphabet is an example of a notational scheme: as characters, letters are indifferent to the variations of their marks, since the graphic forms 'A', '**a**' or '*a*', for example, do not compromise the recognition of the character 'a', they are not mistaken with the letter 'b', for example, being possible to differentiate which marks might be articulated with which character.[26] If between two characters exists a third one, a scheme will be 'dense'. A continuous colour gradation, for instance, is a dense scheme since it is always possible to find a hue between two others hues.

A notational system has to be 'unambiguous', 'disjoint' and have a 'finite differentiation'. This means that each character can only be conform with a class of elements belonging to the reference field, the compliance classes thus established cannot overlap each other, not even partially, and it has always to be possible to identify which symbol is in conformity to which element from a reference field. If in a continuous array of characters it is not possible to identify that an element from a reference field is not in conformity to no one of those characters, the system to which pertains that array will be semantically dense. A ruler, for example, will be a partially dense system if its minimal measuring unity is larger than the minimal unity that needs to be measured, for the exact length of

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21. Goodman, *Languages of Art: an approach to a theory of symbols*, 1976, 131.
22. Ibid, 143.
23. Capdevila-Werning, *Goodman for architects*, 2014, 33.
24. Ibid, 33.
25. Goodman, *Languages of Art: an approach to a theory of symbols*, 1976, 129-130.
26. "Sometimes 1 can be mistaken by the lower case letter l; hence, this aspect of notations is only valid in theory and not in practice." Capdevila-Werning, *Goodman for architects*, 2014, 33.

some dimensions will not be possible to determine. The problem will be solved if both measures coincide with each other, thus turning the system a finitely differentiated one once again.

But neither the differentiation nor the density of a symbol scheme implicates that the symbol systems to which that symbol scheme pertains necessarily has to be either differentiated or dense. Verbal languages, for example, even if being syntactically differentiated, are semantically dense, because their compliance classes might be ambiguous. Poetry, being its plural meaningfulness acknowledged, confirms it. And not all symbol systems are based on differentiated schemes, thus resulting their density. The elements forming a drawing – its lines and its washes – are continuously and indefinitely varied, as testified by a sketch in painting or an architectural study drawing.

The recognition of the density and the lack of articulation of non-linguistic systems must not be understood as a devaluation of those systems over linguistic ones, as if the former were less capable than the latter to convey a meaning. Rather it must be understood as a concomitant comprehension of the different systems, revealing the relativity permeating them all. Syntactic articulation is opposed by Goodman to density, not to disarticulation, the same way density is opposed to finite semantic differentiation, not to infinite in differentiation. These five conditions are fulfilled in various degrees, even being null in some systems. Only systems of notation strictly fulfil all those five conditions.

Goodman synthesizes his proposals convoking the notions of 'analog' and 'digital.'[27] Those notions must not be confused with the notions of 'analogy' and of 'digit', rather being distinguished from one another in terms of 'density' and 'differentiation', even if those terms are not reciprocally opposed. "A symbol scheme is analog if syntactically dense; a system is analog if syntactically and semantically dense."[28] Accordingly, "[a] digital scheme [...] is discontinuous throughout; and in a digital system the characters of such a scheme are one-one correlated with compliance-classes of a similarly discontinuous set."[29] Only a dense system throughout might be an analog system, and only a differentiated system throughout might be a digital system. Consequently, many systems are neither exclusively analog systems, nor exclusively digital systems.

The Arbitrariness of Representation

Having identified the conditions necessary to achieve a system of notation, Goodman identifies what distinguishes linguistic systems from non-linguistic systems. "Nonlinguistic systems differ from languages, depiction from description, the representational from the verbal, paintings from poems, primarily through lack of differentiation – indeed through density (and consequent total absence of articulation) – of the symbol system."[30] Unlike texts, which, being semantically dense, are legible despite the variations of their graphic forms, a representation is

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27. Goodman, *Languages of Art: an approach to a theory of symbols*, 1976, 159-164.
28. Ibid, 160.
29. Ibid, 161.
30. Ibid, 226.

simultaneously syntactically and semantically dense. In painting, not only variations on dimension and color, for instance, demand the recognition of different washes, as the differences thus achieved are important to understand what is represented. That is why panting's density or total absence of articulation was underlined.

Therefore if a system of symbols is considered as either linguist or representational according to its degree of density or of absence of articulation, it thus seems necessary to recognize the relativeness of each and every system of symbols' denotative condition and, consequently, the relativeness also of a symbol's denotative value if and when that symbol is considered individually. "Nothing is intrinsically a representation. Status as representation is relative to symbol system. A picture in one system may be a description in another; and whether a denoting symbol is representational depends not upon whether it resembles what it denotes but upon its own relationships to other symbols in a given system. A system is representational only insofar as it is dense; and a symbol is a representation only if it belongs to a system dense throughout or to a dense part of a partially dense system."[31] Therefore, the abandon of the notion of 'kinds of symbols'. A symbol is the symbol it is not because it has a value of its own but because it is part of a particular system of symbols construed from a particular scheme of symbols, thus being distinguished from other symbols according to both the syntactic and the semantic rules current on that system. Only partaking in a given system, symbols might denote an object, being, for example, either a description or a representation of it.

And it is untying the meaning of symbols from any direct relation with the objects being denoted by different systems of symbols, it is untying, hence and once and for all, 'representation' from 'resemblance', that Goodman refuses arbitrariness as an intrinsic quality of linguistic systems and therefore a distinctive one. Goodman does not overlook the distinctions standing between different kinds of systems of denotation. Rather those differences are reiterated. That is why Goodman undertook a comprehensive scrutiny of all those systems' constitutions. But the core of those distinctions should better be sought not in the relation each system of denotation maintains with the objects thus denoted but rather in those systems' either 'articulation' or 'density'.

Arbitrariness permeates each and every system of denotation. "Descriptions are distinguished from depictions not through being more arbitrary but through belonging to articulate rather than to dense schemes; and words are more conventional than pictures only if conventionality is construed in terms of differentiation rather than of artificiality. Nothing here depends upon the internal structure of a symbol; for what describes in some systems may depict in others. Resemblance disappears as a criterion of representation, and structural similarity as a requirement upon notational or any other languages. The often stressed distinction between iconic and other signs becomes transient and trivial; thus does heresy breed iconoclasm."[32]

Goodman's understanding about arbitrariness might be better appreciated

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31. Goodman, *Languages of Art: an approach to a theory of symbols*, 1976, 226.
32. Ibid, 230-231.

confronting it with Umberto Eco's one. Goodman and Eco assume signs as being transitory entities,[33] thus refusing the notion of 'kinds of signs', but that does not means that they assume as being equally arbitrary all systems of signification. Linguistic and non-linguistic systems are differently evaluated.

Eco's precaution about the so-called iconic signs' arbitrariness is rooted on the iconic codes' 'weakness', which precludes those signs from a stabilized meaning fixing. "The units composing an iconic text are established – if at all – by the context. Out of context these so-called 'signs' are not signs at all, because they are neither coded nor possess any resemblance to anything. Thus insofar as it establishes the coded value of a sign, the iconic text is an act of code-making."[34] Goodman takes that lack of stabilized meaning fixing as the density of those signs. Against linguist signs' arbitrariness, Eco can only counterpoise iconic signs' culturally coded character. And even that character is relative. For Eco iconic systems are not arbitrary because it is not even possible to recognize what they are; it is only possible to recognize them as being culturally coded.

Since arbitrariness has being understood, after Ferdinand de Saussure,[35] as a distinctive feature of linguistic signs, Eco's precaution about iconic signs might suggest that the later are not considered arbitrary because the former are. The expressions 'naturally linked with' or 'motivated by'[36] contested by Eco if taken as an explication for ionic signs turn out symmetric of the expressions 'no natural connection with' and 'unmotivated'[37] with which those signs are referred to by Saussure. Iconic signs' evaluation is determined after linguistic signs' one, even because in Eco's own words both take part of a "complex and continuously gradated array of different modes of producing signs and texts."[38] But it is necessary to acknowledge that it is not as linear the impact of linguistic signs on the iconic signs. By ranking codes according either to their 'strength', or to their 'weakness', and thus concluding the arbitrariness pertaining to some of those codes and only the culturally codified character pertaining to the others, Eco performs a verbal approach to the image as one might testify when Eco refers the multiple verbal interpretations called up by a drawing of a horse. "The iconic representation of a horse does not correspond to the word /horse/ but rather to a description (a black horse, standing up, or jumping, etc.), to a mention (this horse is galloping) or to some other different speech act (look what a beautiful horse!)"[39]

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33. For Eco, "a sign is not a fixed semiotic entity but rather the meeting ground for independent elements (coming from two different systems of two different planes and meeting on the basis of a coding correlation.)" U. Eco, *A Theory of semiotics* (Bloomington and London: Indiana University Press, 1976), 49.

34. Eco, *A Theory of semiotics*, 1976, 216.

35. "The bond between the signifier and the significant is arbitrary. Since I mean by sign the whole that result from the association of signifier with the signified, I can simply say: *the linguistic sign is arbitrary*. […] The word *arbitrary* also calls for a comment. The term should not imply that the choice of the signifier is left entirely to the speaker […]; I mean that is unmotivated, i.e. arbitrary in that it actually has no natural connection with the signified." F. Saussure, *Course in General Linguistics* (New York and Chichester, West Sussex: Columbia University Press, 2011), 67, 68-69.

36. Eco, *A Theory of semiotics*, 1976, 191.

37. Saussure, *Course in General Linguistics*, 2011, 69.

38. Eco, *A Theory of semiotics*, 1976, 190.

39. Ibid, 215-216.

Not only are those two systems differentiated from one another based on how each one embraces the same content, as that content's definition is a linguistic one. Symptomatically, iconic signs are considered by Eco as visual texts, and, symptomatically also, Eco fails to realize that no text will ever reach what is revealed by each and every one of those drawings.

Goodman has a distinct approach. Systems of signification are differentiated from one another despite their possible contents. Goodman's inquiry is called "into the nature of languages and into the differences between languages and non-linguistic symbol systems, as well as into the features that distinguish notational systems from other languages."[40] Therefore, because all those systems are artificial elaborations, Goodman recognizes them all as being arbitrary ones. Eco also assumes that artificiality when recognizing all those systems as being culturally coded. Nevertheless that is not enough to recognize representation as being as arbitrary as language is recognized to be. Eco's representation status is thus unclear. One must wonder how Eco's iconic signs conventional character, even if a volatile one, is made compatible with their non-arbitrariness.

Representation's arbitrariness may at last be confirmed remembering what is being confronted when someone procures to represent something. If a representation and its object are mutually independent entities, otherwise a representation could not be understood autonomously from its object, just like happens, for example, throughout a design process when the object being represented does not have a factual existence of its own, then "the relation that [both] undertake between them is, like with words, arbitrary. [...] Therefore, it is arbitrary the relation between *representation* and *represented.*"[41]

Scale Models, despite Resemblance

Scale Model as a Dense System of Symbols, after Goodman

One may now resume architectural scale models' inquiry.

Even if briefly, architectural scale models are addressed by Goodman. For Goodman, "[a] scale model of a campus, with green papier-mâché for grass, pink cardboard for brick, plastic film for glass, etc., is analog with respect to spatial dimensions but digital with respect to material."[42]

This scale model is 'analog' for what regards dimensions and shape because it is syntactic and semantically dense – the elements of the scale model and the articulations bounding them are continuously and indefinitely varied, and the scale model will not be able to define its object as a score does, that is, in a one-to-one correspondence. And that same scale model is 'digital' for what regards materials, because it is syntactically discontinuous – its materials are finitely differentiated –,

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40. Goodman, *Languages of Art: an approach to a theory of symbols*, 1976, 130.

41. Translated by the author. Original text: "*a relação que mantêm entre si é, como na palavra, arbitrária.* [...] *Por conseguinte, é arbitrária a relação entre* representação e representado." Janeiro, *Origens e Destino da Imagem: para uma fenomenologia da arquitectura imaginada*, 2010, 388.

42. Goodman, *Languages of Art: an approach to a theory of symbols*, 1976, 173.

and each one of those materials is associated with its object's material or set of materials, being these materials also finitely differentiated – each material or set of materials from that object are not possible to be associated with more than one material at the scale model.

The seemingly 'resemblance' between the materials from the scale model and the materials from the campus – between green papier-mâché and grass, for instance – can only be understood as resulting from the adoption of a 'realistic' standard of representation. Otherwise, if that resemblance would prove necessary to representation, Goodman's commitment on exposing as untenable the need for resemblance in order to accomplish a representation would turn out incomprehensible.

Goodman's scale model matters not because of its features – its 'realism' is far from the abstraction architects tend to privilege –, but rather as a reference to understand scale models' diversity. That campus's scale model corresponds only to a class of scale models. Goodman's example might be putted in perspective with his own arguments. It is possible to consider a scale model based on an articulated scheme of symbols that is still a dense system throughout since it would still be a semantically disjoint one. A scale model built only with a finite amount of '*LEGO*' like modular elements fulfils that requirement. And it is also necessary to acknowledge that a scale model might not be a digital system for what regards its materials if it is built out of a single one. White cardboard scale models testify it.

Rather than identifying under which conditions a scale model may or may not constitute either a partially analog system or a partially digital one, it is more relevant to acknowledge that scale models will not ever constitute a notational system. Unlike a score, it is not possible to warrant neither that a scale model exclusively denotes a given architectural object, nor that only one and the same scale model is elaborated considering both a given architectural object and a given kind of scale models. Scale models do not warrant with architectural objects the kind of invariant conformity relations Goodman identified as necessary to achieve a notational system. Both the abstraction processes of building a scale model and the individual options of who designs and who builds that model prevent it. And "[t]he first semantic requirement upon notational systems is that they be unambiguous."[43]

An architectural scale model will always hence be a symbol system if not syntactically at least semantically dense.

Three-Dimensionality, or the Spectre of Resemblance

Goodman's proposals expose as radically untenable the claim that scale models' representational success is to be found on the resemblance allowed with the architectural objects scale models stand for. And that claim is exposed as a radically untenable one because the links bounding each and every form of denotation to its object were unveiled as strictly artificial ones. Arbitrariness

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43. Goodman, *Languages of Art: an approach to a theory of symbols*, 1976, 148.

permeates all forms of denotation. No natural links are to be sought there. That is why resemblance was concluded to be a result of representation, not a condition to accomplish it. But the full extension of Goodman's proposals significance continues to be shadowed by everyday use of scale models. Scale models are recognized as coded devices for being a representation, but their representational ability seems to overcome a strictly coded condition. However appealing Goodman's proposals are at a theoretical plane, practice still seems to overrule as being eccentric disputations over scale models' resemblance and proprieties sharing with architectural objects and hence their singular adequacy to represent them, more so if those objects are in the process of being invented. "The domain of inhabitable objects that architecture claims as its own finds its first intimation in the model. The model purports to present architecture, not *re*present it."[44] Too obvious a closeness to be disputed; too useful to be relinquished…

Scale models' coded condition must be readdressed. It is necessary to understand it in all its extension.

Although being consensual, scale models' coded condition is not supported by a uniformly adopted set of codes at least for what regards its expression. "The choices of color (or the lack of it), methods of construction, materials, and level of abstraction are personal."[45] Nevertheless it is possible to identify same constant options associated with specific purposes. Study scale models might adopt a less strict use of codes, whereas "presentation models portray the complete and fully-detailed composition of an architectural solution and, usually with evidence of its immediate setting, communicate its finality to others. [...] [T]hey take the form of miniature prefigurements."[46] Only the falsehood of an excessive realism will restrain those codes, since realism is commonly perceived by architects as being devoid of a critical comprehension of both reality and representation. "The strength of architects' reaction to realism is usually in direct proportion to their conception of themselves as artists."[47] At the far origin of that reaction is possible to identify Leon Battista Alberti's proposals on '*De Re Aedificatoria.*'[48] To be recognized as an intellectual worker and thus prevent his work to be mistaken as an artifice's handwork, Alberti advises architects that rather than over-elaborated "[b]etter then that the models are not accurately finished, refined, and highly decorated, but plain and simple, so that they demonstrate the ingenuity of him who conceived the idea, and not the skill of the one who fabricated the model."[49]

Identifying the wide array of codes connected with scale models' expression will prove a difficult if not a non-accomplishable task, and perhaps a rather

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44. C. Hubert, "The *Ruins* of *Representation,*" in *Idea as Model* (ed.) K. Frampton and S. Kolbowski (New York: Institute for Architecture and Urban Studies: Rizzoli International Publications, 1981), 17.

45. K. Moon, *Modeling Messages the Architect and the Model* (New York: The Monacelli Press, 2005), 130.

46. T. Porter and J. Neale, *Architectural Supermodels: Physical Design Simulation* (Oxford: Architectural Press, 2000), 34.

47. Moon, *Modeling Messages the Architect and the Model*, 2005, 132.

48. L. Alberti, *On the Art of Building in Ten Books* (Cambridge, Massachusetts; London, England: The MIT press, 1988).

49. Ibid, 34.

secondary one. Being associated with a particular understanding of realism, either getting apart from it or getting close to it, and hence associated also with both a given standard system of representation and that system's current validation criteria, it seems far more important to acknowledge those codes as confirming as being culturally afforded – that is, as non 'naturally' granted – the resemblance relations scale models enable with architectural objects. But those codes constitute only a layer of the codification apparatus held by scale models. Scale models' widely recognized comprehensibility turns out admissible that alongside those more diversified and personal codes, or rather underneath them, one must admit the existence of a more uniformly adopted ones. Scale models' comprehensibility could hardly be afforded resting upon just those more idiosyncratic codes. Also this other layer of codes has to be sought. These layers are nevertheless reciprocally inextricable.

As aforementioned, representation might be understood as an encounter between two distinct objects: the one that refers to and the one being referred to, which may or may not be an extant one. But the encounter between a scale model and an architectural object is a particular one for it evolves objects sharing a three-dimensional existence. This is the key to understand scale models' coded condition. If, for being a representation, the relation scale models establish with their objects must be addressed as a coded one, due to its three-dimensional existence it is unclear how much that relation depends upon a codification to be established. And if rather not in scale models with a higher scale factor, this is a pertinent issue in large sized scale models which interior might even be experienced and prototypes where "the fine line between a full-sized mock-up and the actual building is crossed."[50] It is difficult to simply rule out the possibility of the scale model' representational ability being based, at least in part, on a natural relation with architectural objects – that is, a non-coded one – facilitated by the three-dimensionality shared between each other.

Sardo's remarks about the impact of three-dimensionality upon that scale models' ability testify that difficulty. "In the scale model, as the problems of scale reduction do not seem fixed in a stabilized code, it is the permanence of three-dimensionality that allows a particularly close link with real architecture. Also the quantitative and qualitative characteristics of reduction are highlighted in a different way: in a large sized architectural scale model it is virtually possible to find each and every point of the real object. An analogical kind of duplication between scale model and architecture that seems to escape, due to its evidence, the need for a codification."[51] At least in these cases, three-dimensionality seemingly exempts architectural scale models from a strictly coded condition.

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50. Porter and Neale, *Architectural Supermodels: Physical Design Simulation*, 2000, 39.

51. Translated by the author. Original text: "*Nel modello, mentre le problematiche della riduzione non appaiono fissate in un codice stabilito, è la permanenza della tridimensionalità che permette di realizzare ugualmente un nesso particolarmente stretto con l'architettura reale. Anche le caratteristiche, quantitative e qualitative, della riduzione si evidenziano in maniera diversa: virtualmente in un modello architettonico di grandi dimensioni è possibile ritrovare ogni punto dell'oggetto reale. Una duplicazione di tipo analogico tra modello e architettura che sembra non soggiacere, nella sua evidenza, alla necessità d'alcuna codifica.*" N. Sardo, *La figurazione plastica dell'architettura: modelli e rappresentazione* (Roma: Kappa, 2004), 113-114.

Underneath expression related codes, seems now to be unveiled no longer the existence of a more uniformly adopted codes as previously pointed out, but rather the presence of links that at the limit dismiss any kind of codification. It is the very notion of representation understood as the result of a coded relation that allows one object to stand for another object that is being challenged.

Three-Dimensionality Reconsidered

Three-dimensionality status must be addressed at a codifying-plane, even if being a propriety pertaining to objects.

Having no meaning of their own, since they do not signify themselves, objects' meaning must be understood as being attributed by the subject whenever facing or imagining those objects. Objects are thus "*meaningful formulations,*"[52] as Janeiro points out, accordingly concluding that "the object*'s* qualities are, in fact, subjective projections that qualify the object. [...] It is the subject who deposits on it certain qualifications – those qualities are, hence, of a subjective order and not of an objective order."[53] Recognizing an object as a meaningful formulation implies recognizing it also as a coded entity. A code, as defined by Eco, "[c]onstitutes the rule which correlates elements of expression with elements of content [...]. In order to exist a code it is indispensable that exists a conventional and socialized correspondence."[54] No meaning can hence be formulated without a code. And not being possible to formulate and to deposit on them, no existence can be ascribed to objects. "Speaking about meaning attribution is speaking about a code that allows setting up that meaning attribution and its consequent decoding. [...] [T]he absence of a code implies the inability to signify."[55] And only being signified do objects acquirer an existence.

The same goes with three-dimensionality. Recognizing an object's three-dimensionality is already codifying it. It is inscribing it in an order, a geometrical one for what this case regards, within which a comprehensibility is ascribed to that object. No object is intrinsically a three-dimensional one regardless how overtly reality's evidence might overrule as doubtful this statement. But that is the case. Because each subject lives immersed in a multi-dimensional world, since that world is apprehended along a spatial extension through a temporal extension, recognizing an object as being a three-dimensional one involves an abstraction

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52. Translated by the author. Original text: "formulações significativas." Janeiro, *Origens e Destino da Imagem: para uma fenomenologia da arquitectura imaginada*, 2010, 16.

53. Translated by the author. Original text: "*as qualidades* do *objecto são, no fundo, projecções subjectivas que qualificam o objecto* [...] *É o sujeito quem nele deposita certas qualificações – elas são, por isso, de ordem subjectiva e não de ordem objectiva.*" Ibid, 106.

54. Translated by the author. Original text: "*Costituisce la regola di appaiamento di elementi dell'espressione com elementi del contenuto* [...] *Perché vi sia codice è indispensabili che vi sia corrispondenza convenzionalizzata e socializzata*". Eco, *Il segno* (Milano: ISEDI – Istituto editoriale internazionale, 1976), 143.

55. Translated by the author. Original text: "*falar de atribuição de significado, é falar de código que possa instituir essa atribuição de significado, e a sua consequente descodificação.* [...] *a ausência de código implica a incapacidade de significar*". Janeiro, *Origens e Destino da Imagem: para uma fenomenologia da arquitectura imaginada*, 2010, 40.

process that has to be understood as the result of a conceptualization and hence of the existence of a code capable of so cutting out that object from the multi-dimensional world within which is perceived.

The possibility of an architectural scale model be exempted of a strictly coded condition for the fact of, as the architectural object it stands for, being a three-dimensional object as to be ruled out. As for what its three-dimensionality, a scale model must be perceived as any other object pertaining to the world is. But still remain to identify the codes that bond a scale model to an architectural object.

Scale Model's Geometrical Codes

Architectural drawing's codes allow an insight on scale model's codes. Also architectural drawing must have a set of more pervasive codes underneath more personal ones.

"A drawing type structures a view and thereby the means of representing it. [...] Each type embodies a set of conventions that organizes the information required to make the representation."[56] Orthographic, axonometric and perspective are the most common architectural drawing types. "By "a convention of architectural drawing" I mean the sign – made normally on a two-dimensional surface – that translates into graphic form an aspect (e.g., the plan or elevation) of an architectural design or of an existing building."[57] These are geometrical codes, there resting its importance to the architect's work, being that work permeated, has it always have been, by geometry. Geometry is as much an instrument with which architectural space is manipulated as an order within which the architectural space thus conceived becomes meaningful. Geometry codifies space. "If architecture is the art of the articulation of spaces, then the articulation of spaces codification could be the one Euclid presents in its Geometry."[58] And because architectural space is inextricable from the object shaping it, it must be extended to that object's articulations the order conferred upon space by geometry. That is why, in Siza's words, the exercise of geometry might be taken as a very definition of architecture – "architecture is to geometrize."[59] Nevertheless, it is more than just practicability that geometry affords to architecture. For being concomitant with the geometrical nature of both architectural space codes' and the codes of the object confining it, architectural drawing code's geometrical nature reflects a certain conceptualization of architecture, of its design, and of representation. "[T]he shaping of architectural ideas chose the obvious path of a close relation with geometry. Geometry would not be visible without Drawing, and Drawing would not be unequivocal without Geometry. The evidence of architecture's ideal-plane could only drive from

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56. I. Fraser and R. Henmi, *Envisioning Architecture an Analysis of Drawing* (New York: Van Nostrand Reinhold, 1994), 23.

57. J. Ackerman, *Origins, imitation, conventions: representation in the visual arts* (Cambridge and London: MIT Press, 2002), 294.

58. Translated by the author. Original text: "*Se l'architettura è l'arte dell'articolazione degli spazi, allora la codificazione dell'articolazione degli spazi potrebbe essere quella data da Euclide nella sua geometria*". Eco, *La struttura assente* (Milano: Bompiani. 1973), 221.

59. Translated by the author. Original text: "*arquitectura é geometrizar.*" A. Siza, *Imaginar a evidência* (Lisboa: Edições 70, 2000), 27.

there."[60]

Extrapolating from what was concluded about architectural drawing, one must have to consider that also architectural scale model codification apparatus' incorporates geometrical codes. As with a drawing, those codes will determine how the architectural object's information being represented must be organized on the elements constituting a scale model, thus enabling certain correspondences between those two objects.

But if geometry codifies not only representation – whereas a drawing or a scale model – but also architectural objects, than, for sharing with those objects the same geometrical order – the one that allows recognizing both as being three-dimensional objects –, scale models will also share with architectural objects the geometrical codes with which those objects are comprehended. For a representational purpose, an architectural object is reduced to the same array of shapes a scale model is constituted with. Scale models and architectural objects share between each other the same repertoire of geometrical configurations. That is why a scale model can relate itself to an architectural object without distortion, neither of forms nor of proportions. For it requires a transcription from three to two-dimensions, drawings exclude that possibility. In everyday practice, the degree of absence of distortions is relative, as the comparison between a conceptual model or a study scale model with a presentation one proves.

It has to be stressed, for it might be overlooked, that it is a repertoire of geometrical configurations that is shared, not a specific set of geometrical forms, which normally is precluded by the abstraction processes intrinsic to representation, in particular if it implies, as it usually does, a dimensional reduction. Only in a few cases – with large sized walk-in scale models and prototypes, for instance – a coincidence between an architectural object's geometrical forms and a scale model's ones can be considered. And even then that coincidence will prove a relative one, for what is usually represented on a scale model is only a section of an architectural object. But if a scale model replicates an architectural object in all its features – formal and material ones, for instance –, no longer is prompted out the issue of a correspondence between geometrical forms but rather the issue of the limits of the very definition of architectural scale model.

The meaning of sharing a repertoire of geometrical configurations has however to be clarified, for it raises again the spectre of resemblance as the bases for scale model's representational ability. It is at stake the notion of 'sharing'. As aforementioned after Janeiro, the qualities seemingly pertaining to an object are not intrinsic ones but deposited on it by the subject whenever facing it or imagining it. That is why objects ought to be comprehended, again after Janeiro, as '*meaningful formulations.*'[61] Objects are therefore recognized as coded entities.

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60. Translated by the author. Original text: "*a configuração das ideias arquitectónicas escolheu o óbvio percurso da relação estreita com a Geometria. Esta não seria visível sem o Desenho, e o Desenho não seria inequívoco sem Geometria. A evidência do plano ideal da arquitectura só poderia daí advir.*" E. Côrte-Real, *O Triunfo da virtude* (Lisboa: Livros Horizonte, 2001), 60.

61. Translated by the author. Original text: "formulações significativas". Janeiro, *Origens e Destino da Imagem: para uma fenomenologia da arquitectura imaginada*, 2010, 16.

Outside a code no existence can be considered to an object. There lays the meaning of 'sharing' for what regards the relation between a scale model and an architectural object. Rather than a transfer process, as if an object's set of codes could simply move to a representation of that object thus profiting from that set of codes, sharing a code implies that the same code is adopted when signifying two otherwise and until then distinct objects. Stating that a scale model and an architectural object share the same geometrical codes has hence to mean that those objects became meaningful formulations – a scale model and an architectural object, for what this case regards – being imposed on them the same geometrical codes.

But scale model's geometrical codes cannot be thoroughly identified without scale being addressed. Practicability demands that architectural scale models usually have an order of magnitude lower than the one of its object. Geometrical codes are hence associated with this demand. Strictly speaking, a scale is an arithmetic coefficient that establishes an equivalence between the dimensions of an object and the dimensions of a representation. But scale manifests itself rather than just as a dimensional equivalences definition and control device. Scale convokes a practice stabilized frame of references that determines how a scale model configuration should be interpreted in order to be recognized as its architectural object configuration. Also scale constitutes a code. The correspondence between a scale model and an architectural object is again confirmed as a culturally coded one. In everyday use, scale determines the information, and not just geometrical one, that should be considered whenever building and observing a scale model, balancing between an inevitable difference from its object and the desire to reach it. But rather than providing resemblances, first and foremost geometrical ones, which, as already remarked, are not likely to happen, scale above all allows to operate with differences and the lack of definition driven from them. And that is a key asset to the work of an architect. "Scale allows the architect a means for climbing towards a definition, developing a balance or medium between a known and an unknown, creating a standard with which to refer and a way of peeling away to reveal that which is unseen."[62]

Scale Model's Arbitrariness

The arbitrariness of the relation between an architectural scale model and an architectural object turns out clear now. Being an architectural scale model and the architectural object it stands for not only distinct from one another but reciprocally independent entities – otherwise neither one nor the other could be autonomously understood and they can so be understood –, and being the relation between those two objects a strictly conventional one – otherwise a scale model could not represent its object since it bears no resemblance with it and carries none of its proprieties –, one must conclude that is also arbitrary, as it is in language, the relation between architectural scale models and architectural objects. The fact that architectural scale models and architectural objects are constituted as equally

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62. A. Smith, *Architectural Model as Machine, a New View of Models from Antiquity to the Present Day* (Oxford: Architectural Press, 2004), xviii.

three-dimensional entities obviates the existence of geometrical codes fulfilling the demands that architectural drawing codes' have to fulfil. A scale model does not require the shuttle between bi-dimensionality and three-dimensionality a drawings does, but that does not mean that architectural scale models are less coded representations or maybe even non-coded ones as sometimes seems to be considered. Sharing with its objects the same geometrical order does not exempt scale models from codification; determines only that codification's lesser perceptibility. "The physical model has a slightly outsider status. In a physical model there appears to be less code, less representation, less conversion of data into conventional means, and, hence the object – the model – appears to be more real."[63] Evan if a paradoxical conclusion, architectural scale models do not differ, for what regards the strictly coded condition they establish with their objects, from architectural drawings.

Why then scale models seem so easy to understand to the point of being taken as a non-coded representation? Regardless the reason for that seeming easiness one must nevertheless recognize its roots as stretching beyond the strict limits of the profession. Otherwise presentation models intended to be understood by non-architects would prove fruitless. "It may be that the model is not a universal object in terms of legibility, it may instead be deeply culturally determined, but that cultural filter is not a professional one."[64]

Being confirmed its strictly coded condition, finding out why scale models seem so easy to understand is no longer about questioning if recognizing a scale model demands mastering a set of codes, but rather how that code mastering is learned. This question becomes more pertinent because rather than what happens with architectural drawing it is difficult to pinpoint as such that mastering of scale models' codes.

Scale models comprehension, particularly the notion of scale, is learned early in life and outside the scope of architectural representation. "[E]very adult has been through an intensive number of years as a child, using miniaturized and scaled objects called toys. Years of learning to control, manipulate and subvert these representations of the adult's world, means that no adult can be fooled by a model. Unlike plans/section/elevations, and statements of design intent, the model is very familiar territory."[65] Children's literature – 'Alice in Wonderland' and 'Gulliver´s Travels', for instance – also play a part in learning about scale. But it is growing a self-awareness when comparing himself with the adult that a child internalizes the notion of scale.

An architectural scale model is not a toy, but the differences between them drive not so much from the codes upon which each one is understood, as from how those codes comply with current standards of realism, either getting apart from them – as an architectural scale model usually does –, or getting close to

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63. A. Selenitsch, "Small Real Large," in *Homo Faber: Modelling Architecture* (ed.) M. Burry, M. Ostwald, P. Downton and A. Mina (Melbourne; Sydney: SIAL and the Melbourne Museum; Archadia Press, 2007), 4.

64. M. Morris, *Models: Architecture and the Miniature* (West Sussex: Wiley-Academy, 2006), 68.

65. Selenitsch, "Small Real Large," 2007, 5.

them – as toys often do. The difference between an architectural scale model and toy should rather be sought on the objects each ones represents and the purposes for that representation, than on the mechanisms through which they represent their own objects.

Scale Model and Architectural Object or the Impossibility of a Match

The lack of any natural resemblance between an architectural scale model and an architectural object being as they are irreconcilably distinct from one another, raises the question of the importance of a scale model to architectural design.

Apparently, a scale model will contribute to the design process' evolution for it allows architects to envision information capable of clarify their still undefined ideas. But one has to realize what information is thus envisioned. No longer being possible to sustain a scale model as a see-through device, because it is no longer being possible to insist on its natural closeness to architectural objects, the information envisioned on a scale model has to be recognized as not being coincident with the information that required it. That is why, one might considered, "[t]here is a danger with any of the possible "tools" that they could falsify our ideas."[66] Also scale models, for being an architectural representation, have to be addressed as standing between the architect and the object he is trying to define. "One conclusion that we might legitimately draw […] is that the dream of a perfect fit between object and its representation needs to be given up. Doubt and indeterminacy may have to be accepted as the everyday working material of the architect. [...] Theory acts to provoke doubt, but once that doubt has been registered, the challenge of the present is to make do with this corrupt and imperfect material."[67]

But no shortcoming should be found there, for no such match between object and its representation should be dreamed about either. In fact, whenever building a scale model, an architect tries to clarify a design intention, subsequently deciding upon its pertinence, either maintaining it, or readjusting it, or even dropping it down. But if that is the sole information considered, if the scale model is interpreted in a restrict manner, the design process, as a research process, will be in risk of getting closed inside itself. Scale model's importance to architectural design must be sought right there, in that missed coincidence between what was intended to be represented and what can be found in a representation. Although that missed coincidence forces thought to confront itself with unforeseen information, that new information and the information already known will be reordered, successively reordered, thus determining the evolution of the design task. "For the normal model to function as part of a chain of process, it can be thought of as lacking."[68] Only when the information already reordered is considered sufficient, that is, only when the balance between what is known and what is unknown about the architectural object being invented is evaluated as being adequate, will the design

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66. Gänshirt, *Tools for Ideas an Introduction to Architectural Design*, 2007, 81.

67. S. Allen, *Practice, Architecture, Technique and Representation* (Amsterdam: G+B International, 2000), 45.

68. Morris, *Models: Architecture and the Miniature*, 2006, 66.

process be finished. And never that object's definition will be a complete one. No representation will ever fully replicate its object.

Architectural scale models prove important for the invention of architecture for being distinct, radically distinct, from the architectural object they are conceived to stand for.

Final Considerations

This paper was prompted by architectural scale models' singularity as an architectural representation. Scale models have long been trusted by architects to envision their ideas, but still remains largely unacknowledged the nature of the relation they allow with architectural objects. Resemblance arguably enables that relation, the role of scale models in architectural design therefore having to be revaluated.

Goodman's proposals allowed to comprehend architectural scale models' representation ability as a strictly coded one. No resemblance is to be sought between a representation and the object is stands for, for resemblance is no condition for something to stand for something else. Something stands for something else because it is established that way. Standing for is built upon arbitrariness, for being inexistent any natural links with the object being referred to. No resemblance is hence to be sought either between a scale model and an architectural object – not even considering the three-dimensionality shared between each other. Despite the convincing illusion, no complicity is to be found between one and the other. Architectural scale models and architectural objects are radically distinct objects. But rather than a constraint, that distinction proves crucial for architectural design, because by being distinct from its object might a scale model replace it and thus bring order to the architect's thought and only failing to match that object might a scale model contribute to that thought's development.

But no harm will came from still finding out resemblances, for "exact conformity between definition and ordinary practice is never required or to be expected."[69]

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69. Goodman, *Languages of Art: an approach to a theory of symbols*, 1976, 220.

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The Aesthetics and Attainability of Cultural Cohesion: The Metaphorical Compositional Structure of Oresteia and Acropolis of Athens

*By Vladimir Mako**

The aim of this paper is to investigate the essence of tripartite compositional structures as developed in several important cultural monuments of classical Greek art from the fifth century BCE. This structure appears as a possible mutual aesthetic approach to a metaphorical interpretation of particularly-shaped mythological meanings, revealing the essential cultural and social beliefs and values of the period. In that context, the discussion on Aeschylus's trilogy Oresteia and the appearance of three essential forms of Athena's holy places on the Acropolis of Athens can help us understand one of many aspects of cohesion of cultural and aesthetic expression of that period. Moreover, this investigation focuses attention on the possible aspects of aesthetic development of a society's fundamental ideals and the forms of their variable appearances.

Introduction

After suffering extreme destruction of their city by the Persians in 479 BCE, and then experiencing glorious victory over the same enemy in the Battle of Salamis, in the following decades the people of Athens developed a way of thinking, establishing new cultural, philosophical, ethical, aesthetical and political ideas. However, it seems that such differentiation between fields of human social activities was not particularly evident in the minds of people of the Athenian classical period. One may think that there was a developed coherent understanding of what are the essential manifestations of human existence on the social and personal levels, but clearly under the umbrella of the most important political expression of these essentials. It seems that by equating the fundamental aspect of human existence with the notion of *homo politicus*, the Athenians of the Classical fifth century established only the variables of a coherent idea as expressions in different fields of social and artistic activities.

The final results of such a process should be understood as manifestations of a number of perceptual characteristics and qualities not separated by developing divergent ideas regarding issues of human existence, but formed in line with the very nature of the fields of the praxis itself. Consequently, it seems possible for us to gain insight into the fundamental unity of important social, political and aesthetic ideas within the diversity of their perceptual manifestations. Actually, it could be thought of as a search for particular aspects of cultural cohesion, manifested in the most important expressions of the life of the polis and its nature.

For the purpose of our discussion, and at the risk for simplifying such an important issue, we should focus our attention on two examples of *final classical*

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perfection: the Greek tragedy and the Acropolis of Athens. In this statement, Rodenwaldt expressed the general opinion of many scholars that the Attic drama and the fifth-century classical architecture of Athens are the highpoints of its democratic and cultural development.[1] However, regarding the art of tragedy, in our analysis we will apply a more constrained selection of examples. In regard to the period of their appearance and the cultural influence on generations of artists, and generally on the people of Athens as the political body of the polis, it seems that Aeschylus' *Orestheia* trilogy, performed in 458 BCE, would be the most practical example for our analytical process.

Aeschylus' *Oresteia*

The origin, social significance, structure, and general cultural importance of the art of tragedy, and particularly the work of Aeschylus, are well known. However, there are several aspects essentially relevant to our discussion, to which we need to pay attention in order to point out the particularities of the issue in question.

In his book, Albin Lesky emphasized the fundamental aspects configuring the structure and the meaning of Greek tragedy. For our discussion the notion of the epic as *the perception of life as a chain of events* is of particular importance.[2] It points out the dynamic sense of life which is embedded in the way of thinking, developed by the Greeks of the classical period, and according to which tragedy was structured as the form of action, or imitation of action as Aristotle called it.[3] Accordingly, tragedy is a negation of narrative and it *gained its gravity, its dignity, its poise, through the heroic myth*.[4]

Regarding these essential notions, Lesky generally recognizes three prerequisites for tragic effect, which in a way establish the fundamental character of drama and its aesthetic communication with the audience. First, the tragic effect should be built on *the dignity of the fall*.[5] The second prerequisite is linked to the sense that the acknowledgement of the tragic should be relevant to the actual world the audience live in.[6] The third prerequisite asks the protagonist to consciously accept the agony and suffering as a result of decisions provoked by the conflicts developed in the play.[7] The named three prerequisites fully emphasize empathy as the core of the structure of the tragic play and its role in a transmutation of life, which according to Lesky, presence *convergence of the inner forces of Dionysian religion and events of a political nature*.[8]

However, focusing his attention on *Oresteia*, particularly on the final act of *The Eumenides*, Lesky emphasizes the feeling of reconciliation as an important

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1. G. Rodenwaldt, *The Acropolis* (Oxford: Basil Blackwell, 1957), 15.
2. A. Lesky, *Greek Tragedy* (London: Ernest Benn Limited, 1967), 2.
3. Ibid, 6; Aristotle, *Poetics* (London, Dent, 1963), 1449a.
4. Aristotle, *Poetics*, 1963, 1449a.
5. Lesky, *Greek Tragedy*, 1967, 8.
6. Ibid, 10.
7. Ibid.
8. Ibid, 41.

emotional capacity, but not often used in other tragedies. It gives him the opportunity to formulate an important characteristic of this trilogy, which makes us *realize that tragedy can be perceived simply as an actual historical phenomenon within the cultural setting that brought it into being.*[9] It seems that this notion refers also to the new political and social order established in fifth-century Athens, following the atrocities of the war with the Persians, and presented by Aeschylus as the opportunity for achieving harmony after tragic suffering. In this sense Goldhill stated that *tragedy thus staged its structure of the agon a division in social thought. It explores the different and competing ideals, different and competing obligations, different and competing senses of words in the developing polis, different and competing ideas of glory and success. It shows characters tailing to communicate, clinging to ideals, and tearing themselves and society apart. It discovers tension and ambiguities within the very civic ideology of democracy that is the context of tragedy's performance.*[10]

Such an important notion, regarding tragedy as an expressive form linking religion and the social and political order of the polis, can be found as a common observation made by many scholars, and we will not elaborate on it further.[11] However, it seems that for our topic the tripartite structure of *Oresteia* is of particular significance. Such a structure was developed by Aeschylus, probably in order to organize the successive parts of the presented action in a more elaborative manner. Despite the fact that during the sixth and the fifth century BCE, the number three was in Greek culture considered a perfect number regarding compositional structure in arts, it seems that through the construction of the trilogy Aeschylus introduced a more complex and sophisticated meaning that was particularly expressed by *Oresteia*.

Undoubtedly, if tragedy expresses the completeness of life in a manner of tragic epic events, through the mythological and ritual matrix, then the unification of powers governing the tripartite universe of immortals, mortals, and the dead, was one of the mayor concerns for Aeschylus.[12] In this context, the analysis of the three plays constituting *Oresteia*, *Agamemnon*, *The Choephoroe*, and *The Eumenides*, could expose characteristics confirming such a notion.

In the first play the scene is set in the front of king's palace, and activities of the protagonists reflect Agamemnon's politics and decisions he made for the war and during the war. Such worldly actions nurse guilt as a prerequisite for suffering. Agamemnon, as *a maker of war*, was presented as *sinner succumbing to persuasion for his ruin*.[13] His wife's revenge can be considered as retribution for the king's guilt, but her action accumulates further suffering, provoked by the terror of treason, murder and bloodshed. Clytemnestra performed an almost

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9. Ibid, 12.

10. S. Goldhill, *Aeschylus: The Oresteie* (Cambridge: Cambridge University Press, 2012), 17.

11. H. Gordemanns, "Aeschylos: Die Tragodien," in *Das Griechische Drama* (Darmstadt: Gustav Adolf Seeck, 1979); K. Frank, "Aeschylos: Die Tragodien," in *Das Griechische Drama* (Darmstadt: Gustav Adolf Seeck, 1979), 504.

12. D. Wiles, *Tragedy in Athens – Performance Space and Theatrical Meaning* (Cambridge: Cambridge University Press, 1997), 76.

13. R. Gakeen, "Aspects of dramatic symbolism: three studies in Orestia," *The American Journal of Philology* 76, no. 2 (1955), 127.

ritual killing. By laying a red carpet at the palace's entrance, and by luring the king to walk across it, she actually separated Agamemnon from the earth of Argos and its symbolical power. In its deeper meaning, the carpet seems to be understood *as a thing darkly pooling blood and death while overtly sheening pomp and pride*.[14] Thus, through the first play of trilogy, *Oresteia*, the world of men is characterized by political power leading into inexorable repetition of conflicts and suffering.

In the second play, *The Choephoroe*, the audience faces a predominant invocation of chthonic powers. The scene opens with Orestes surrounded by the altar, gravestone and burial mound of Agamemnon, and *the world below the earth becomes the centre of concern*.[15] It seems that for Aeschylus the link between the world of the living and that of the dead is charged with strong energies, which are essentially important for the completeness of man's existence and ethical concerns. Orestes' decision to kill Clytemnestra is deeply rooted in the tradition marked by the grave of his father as the powerful source of revengeful actions. As Lesky emphasized *again and again Agamemnon's aid is invoked; in true archaic fashion the dead man is imagined as a powerfully effective demon, and is conjured up with all the magic tomb ritual*.[16] However, Aeschylus was not presenting an isolated example, nor was the play created as a literal fiction.

According to our knowledge of the cult of the dead, particularly those who died a violent death, it seems that Aeschylus accurately presented an execution of revenge and subsequent ritual purification, traditionally performed in such cases and still valid in rituals that were practiced in Athens in the fifth century BCE and earlier. Also, the role of Apollo and the Delphic Oracle in this context was actually part of the cult. Orestes was ordered by the Delphic god to execute the revenge killing of his mother, by which the ancient custom, an inevitable obligation towards the soul of the dead, would be fulfilled. Nonfeasance of that obligation would bring about terrible misfortune to the living and the land itself, by the unrest and anger of the troubled soul.[17] Nevertheless, in the play *The Choephoroe* Aeschylus collects and presents the most important aspects of the chthonic cults and rituals related to the dead and their immortal souls, practiced in Athens of its time. This was an important level developed in the trilogy, a step towards completing the idea of presenting human existence as a whole.

By presenting such an event in the second play, Aeschylus brings the audience to an emotional culmination. He provokes a terrifying feeling as a consequence of people's belief in the actual existence of the presented chthonic powers and inevitability of the protagonist's actions. In this sense, the appearance of the Eumenides at the end of the *The Choephoroe* seems to be the culmination of horror. However, the emotional gradation structured in this manner is a logical prelude to the third play, developing the feeling of redemption and reconciliation, which is introduced by a new divine and social order.

The third play, *The Eumenides*, opens with Orestes kneeling by the statue of

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14. Ibid, 116.

15. Wiles, *Tragedy in Athens – Performance Space and Theatrical Meaning*, 1997, 180.

16. Lesky, *Greek Tragedy*, 1967, 80.

17. E. Rohde, *Psyche. Seelencult und Unsterblichkeitsglaube der Grichen* (Tubingen: Verlag von J.C.B. Mehr, 1925), Chapter III.

Athena in front of the temple, an image which denotes a public space of the polis. In addition to the main event, the ultimate resolution of Orestes by the divine power, many scholars agree that this play is particularly concerned with the rising new democratic order of the polis, and its general importance. For instance, the scene of Orestes' trial could be interpreted as the moment of the founding of the Areopagus as a court of men, established in the grace of Athena herself. The process of judgment was performed according to the decrees of Areopagus also in the cases *where formerly magic purification rites were required*.[18] Actually, it seems that Aeschylus presented the importance of establishing democratic institutions in Athens, and therefore he continued to give the tragic performance a fundamental notion of real political and social life of the polis.

It has already been acknowledged that Oresteia, *which starts in the home of the family and moves to the law court of the city traverses the tensions produced by these two sites of authority in fifth-century culture, the oikos and the polis*.[19] In this sense, in *The Eumenides* Aeschylus provides a particular affirmation of the new city's order, and its new political and cultural context. Moreover, *the final procession of the play, as the Furies are escorted to their new home in Athens, is staged in such a way as to recall the Athenian festival of the Great Panathenaia. So, as Athena directs the final procession of the Oresteia, the play represents the city to the city, celebrating its goddess and itself as community*.[20]

The manner in which Aeschylus addresses and raises important questions related to the political and cultural life of the fifth-century Athenian community, seems to reflect particular aesthetic ideas developed during the classical era. The structural complexity of the integrated ideas, reflecting the existential reality of the polis and its beliefs, exposed in trilogy *Oresteia*, is carefully formed as a spatio-temporal system essentially inherent to Greek thinking. In its fundaments it has been attained by the cohesive power of longing for the perfection in human expression. Aeschylus' genius simply formulated that longing for classical perfection and structural complexity through the construction of a trilogy, and by means of the art of tragedy. However, his achievement seems to coincide with the second example of the classical perfection – the Acropolis of Athens as the image of the greatness of the polis.

The Acropolis of Athens

The political reality, the war against Persian invasion, stroked all the segments of Greek life, particularly that of the Athenians. One can consider it a process of maturing in a political and social sense, especially after conscious acceptance of the necessity of sacrificing their capital city. In this act *we recognize the attitude of heroic man*, as Lesky formulated it.[21] This notion is crucial for our discussion. As we remember, the *dignity of the fall* should be accepted as the first *prerequisite for*

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18. Lesky, *Greek Tragedy*, 1967, 83.
19. Goldhill, *Aeschylus: The Oresteie*, 2012, 7.
20. Ibid, 52.
21. Lesky, *Greek Tragedy*, 1967, 55.

tragic effect.[22] Of course, in our context the definition of the tragic effect exceeds the art of poetry, and it can be accepted as an essential aesthetical and cultural expression of the new classical ethical concern.

However, such a portentous decision and its willing acceptance, reflect the second and the third prerequisites for the tragic effect, as Lesky pointed them out. The act of Athenians was extremely relevant for the world they lived in, and they suffered the consequences of it knowingly.[23] However, after the deed was done, they decided to mythologize it by a new oath never to rebuild the temples destroyed by the Persians, particularly their noblest sanctity, the archaic temple of Athena Polias, located in the centre of the Acropolis. In its essence such decision was a kind of glorious reconciliation, while the remains of destroyed temples were transformed in *a memorial to those who come after of the sacrilege of the barbarians.*[24] According to this ethical notion, the Athenians trusted that *memory will restore what time must destroy.* By this they introduced a particular understanding, also important for the development of new aesthetic attitude, that *dwelling upon the past is therefore dwelling upon the present.*[25] This notion can be also understood as becoming the principal force of social cohesion of the polis. Conscious suffering leads to moderation of the old order which provoked the terror. Thus, memory and unification of the past and present appear to be a powerful political tool of the new order of Athens. This could be the reason why it can be considered that the classical reconstruction of the Athenian Acropolis was a project initiated and completed by the demos – by the entire community rather than one person or a group of citizens.[26]

However, in such a social and political context of rebuilding their most sacred site, the people of Athens advanced its architectonic structure into a highly sophisticated and complex unity. It seems that the concept of the final part of the procession of the Panathenaia was of particular influence on the new classical architectural concept.[27] The procession alone can in its essence be defined as a spatio-temporal event. Actually, as part of a religious ritual of the highest order, it appears to influence the fundamental norms of peoples' movement through space, in order to enable the core of a mythological event – *a transformation of past action into present action.*[28] Furthermore, Wiles reminds us of a very important fifth-century belief, concretized in architectural practice, that *all spaces have their divine overseers* and that *spaces can never be abstract or inanimate,*[29] which as a general aesthetic notion influenced Aeschylus' approach toward theatrical space in the first place.

To properly analyze the characteristics of the Athenian Acropolis of the

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22. Ibid, 8.
23. Ibid, 10.
24. Diodorus, *Historical Library* (London, 1814), 11.29.2.
25. J. De Romilly, *Time in Greek Tragedy* (Ithaca, New York: Cornel University Press, 1968), 27.
26. J. Neils, *The Parthenon Frieze* (Cambridge: Cambridge University Press, 2001), 25, 26.
27. R. F. Rhodes, *An Architecture and Meaning on the Athenian Acropolis* (Cambridge: Cambridge University Press, 1995), 44.
28. Wiles, *Tragedy in Athens – Performance Space and Theatrical Meaning*, 1997, 114.
29. Ibid, 168.

classical era important for our discussion, we should take into consideration the actual movement down the path of the sacred procession. The continuous progression of mythological and ritual activities develops during this procession, as an increase of emotional charge towards the climax of the sacred event. It is conditioned by a number of meaningful sacred sites that one encounters on the processional way.

After entering the sacred plateau, one faces the first site marked by a colossal statue of armed Athena presented as the warrior maiden, in later periods named Athena Promachos. It refers to the Athena as protector of the city.[30] However, being surrounded by the spoils of war – votive presents bequeathed to mark equally those victorious and defeated – the statue seems to carry additional meaning. As the first new classical monument at the Athenian Acropolis, the statue was erected in the year 460 BCE, and at a time when the memories of the last war with the Persians were still historically active. Its position was marking the axis of the ruined Old Temple, and it is possible that it symbolically coincided with the orientation of the image.

The goddess was faced the West cardinal point of the sunset (not usual in Greek culture when placing an image of a supreme deity), and all mortals coming to Acropolis were reminded of the fruits of actions of politics and war, both the glory and the suffering. Arrivers, facing the statue, were urged to remind themselves of their past deeds, and those leaving the site were followed by the Athena's gaze, to think of what they will do in the future. In that context, the goddess was not presented only as the protector of the city, but also as an overseer and cultivator of human political activities, equally as punisher and rewarder.

Continuing down the old Panathenaic Way, the procession would reach the next sacred site on the north side of the Acropolis. It was occupied by the Erechtheion temple, according to many scholars the rightful successor of the destroyed Old Temple of Athena Polias.[31] It housed the ancient and the holiest image of Athena Polias, a peaceful goddess watching over the increase of the land,[32] to which the Peplos was offered on the day of the Panathenaia.[33] However, in addition to the worship of the main cult of Athena Polias, Erechtheion was also a sacred place of other cults, particularly related to the founding of the city. It is the spot where Athena and Poseidon held the competition for the control of Attica, witnessed by the sacred olive tree and the pond with salt water, still visible in the Classical period. Under this temple were the graves of the first mythological kings of Athens, and near it, on the north slope, was the place where, according to the last scene in Aeschylus play *The Eumenides*, Athena calmed the anger of the Furies. After that the old chthonic deities were no longer present just as *the horror of the underworld, but also the powers of blessing that slumber in the depths of the earth*.[34]

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30. C. Cuninngham, *The Acropolis* (The Open University Press, 1979), 15.

31. C. J. Herington, *Athena Parthenos and Athena Polias* (Manchester: Manchester University Press, 1955), 19.

32. Ibid, 44.

33. Ibid, 32; Neils. *The Parthenon Frieze*, 2001, 173.

34. Lesky, *Greek Tragedy*, 1967, 84.

For our discussion, the named functions of Erechtheion, as the second site in the spatio-temporal progression across the plateau of the Acropolis of Athens, are of particular importance. It is a site that predominantly hosted by Athena cultivated chthonic powers, from which came the prosperity and the increase of the city and land. Through it the new community of the polis achieved an essential and direct connection with its mythical past, also affecting the people's political and economical existence, cults, rites and customs. This temple is considered a *complex aggregation of myths*, not only in regard to the founding of the city of Athens,[35] but also as a constant source of benevolent and powerful energies helping the development of polis.

Before the completion of the Great Temple, in later periods named as Parthenon, the ritual climax of the Panathenaia procession, the offering of Peplos to the ancient image of Athena Polias, i.e. the one dwelling on the polis, was probably the last encounter with the holy sites of the goddess. However, there is still uncertainty regarding how the Parthenon was introduced into the great festival after its completion. There is no evidence of the particular cult at that site, nor any association with traditional priesthood.[36] Even the name Parthenos, attached to the great statue made by Phidias, was not an official title, but a popular name.[37]

However, it is significant that after Parthenon was erected as Athena's second temple, it become also her third holy site at the Acropolis. Since two abovementioned sacred sites of Athena carried important attributes of her divine power, it seems correct to assume that the third and newest one also contained meaning important for the accomplishment of the communal and cultural cohesion of the polis. One can feel a premonition that it was revered as a divine monument of the new order of the city, as a unique mythological, ritual, and political entity forged through glorious historical events at the beginning of the fifth century. It also reflected military and financial power that Athens had developed, and its dignity as a cosmopolitan centre of the Greek world. This idea is certainly visible in the sculptural program of the Parthenon, and it has been analyzed in detail by several important scholars.[38] There is a strong notion that by its entire structure, both architectural and sculptural, the Parthenon visibly represents all the important aspects and references to democratic Athens and its new institutions.

Conclusions

A complex tripartite sacred structure, which addresses the most important attributes of Athena, can be identified at the Athenian Acropolis. These attributes are closely linked to the essential aspects of the religious and political organization

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35. Rhodes, *An Architecture and Meaning on the Athenian Acropolis*, 1995, 140.
36. Neils, *The Parthenon Frieze, 2001*, 26.
37. Herington, *Athena Parthenos and Athena Polias*, 1955, 6.
38. Neils, *The Parthenon Frieze, 2001*; O. Kobin, "Democracy and Imperialism in the Panathenaic Processions: The Parthenon Frieze in its Context," in *Proceedings of the International Conference 'The Archeology of Athens and Attica under the Democracy.* American School of Classical Studies of Athens 1992. Oxbow Monograph 37 (1994), 143-150.

of the polis. It can be considered a kind of invocation of divine attributive names, so important in the life of Greek cults, because *who really wants to be heard by the god must call him by the right name, and if the god has several they must all be pronounced.*[39] It seems that for the fifth-century citizens of Athens it was particularly important, due to their fresh memory of the atrocities of the Greco-Persian War, to put all activities essential for their prosperous life in the future under supreme control of Athena. In that context Athena needed to be called upon, as overseer of the political actions and mortals, as the divine mediator between the polis and energy of chthonic powers and ancient rituals, and as the establisher and keeper of new democratic order.

Furthermore, there is a strong feeling that the essential meanings of each of the three parts of the structure presented at the Acropolis, by their nature and the way of spatio-temporal appearance, coincides with the previously analyzed structure and meaning of the *Oresteia* trilogy. In both examples, through the first part of their compositional structure, spectators encounter the world of men, represented by their activities and consequences provoked by them, as in the play *Agamemnon*, or through the memories of war, victorious or disastrous, offered to Athena Promachos. The appearance of unavoidable powers of the chthonic world, where its energies are presented as still governing the activities of mortals, is the crucial point of the second play in Aeschylus' trilogy, as is the case with the cults of the temple of Erechtheion. The glorious celebration of the new order of polis and the reconciliation of accumulated suffering appears as the closing idea of both analyzed tripartite structures of *Orestheia* and Acropolis. In both structures, Athena is presented as the divine and supreme power of cultivation and transformation of old customs and politics into the city's democratic institutions.

However, it seems that the importance of the above-mentioned tripartite structures was not an isolated approach in expressing symbolical and aesthetical meanings through art and architecture, particularly at the Acropolis of Athens. In the analysis of the general structure of the Parthenon frieze, Neils indicated three important parts of the narrative representing the Panathenaia, as progressing through space and over time.[40] Actually, there are presentations of following events: first of the preparations for the procession, second of the procession itself, and at the end on the east side of the temple, the assembly of deities and the end of the ritual. This example clearly shows that the idea for attaining compositional harmony in the classical period of the Greek culture, involves in a higher degree also the tripartite principle of structuring, and not only as a Platonic ideal.

This kind of perceptual organization of an artwork, as aesthetic forming of observer's development of empathy through particularly exposed meanings, can be also further recognized, for instance in three main types of symbolic imagery, as defined by Gakeen. In analyzing aspects of dramatic symbolism, he defines the verbal imagery, the imagery of action, and of scene.[41] However, a tripartite relation indicated by Wiles, the one between a temple, an altar and playing area

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39. Lesky, *Greek Tragedy*, 1967, 74.
40. Neils, *The Parthenon Frieze*, 2001, 51.
41. Gakeen, "Aspects of dramatic symbolism: three studies in Orestia," 1955, 114.

can be from a particular importance for our discussion.[42] It reminds us that tragedy and theatre are actual representations of real spatial and temporal cult and political performances organized in the city of Athens.

In that sense, one more similarity between our two examples can be pointed out, involving the circular spatial organization of the main activities. Originating from ritual activity, drama inherited the circular organization of the orchestra, which was called *thymele* – to sacrifice. The centre of it, around which the chorus and actors move, was also used as an altar whenever dramatic action called for it.[43] Like in rituals, where people assembled circularly around the altar, so in theatre the members of the community are placed around the orchestra. In both cases the dramatic event, taking place in the centre of the space, was producing a powerful effect of social integration.[44] During the theatrical performance audience also becomes a strong political entity.[45] This was the reason why at the end of the *Oresteia* trilogy, Aeschylus was able to present Athena's speech to the audience, as an assembly unified in cultural and political life. It is a kind of self-addressing of the polis through drama, as the very product of the polis.[46]

Similarly, reaching the plateau of the Athenian Acropolis, the Panathenaian procession actually moved around the holy ground where the ruins of the Old Temple were exposed. It was the centre of historical memory, an orchestra of past activities, unifying the community politically, culturally, and ritually. Like in theatre, on the Acropolis the assembly space was transformed into a political space. Wiles defined this transformation as a particular invention of the fifth century.[47] In fact, it seems that the analyzed similarity could be perceived as a part of a larger practice in fifth-century Athens. Referring again to Wiles: *in many spheres of Athenian democratic activity we see spatial relationships organized in terms of a fixed centre and a more or less circular periphery.*[48]

The noted similarities in the structures and symbolical meanings of their parts, between Aeschylus' trilogy and Acropolis of Athens, could not be explained through formal influences of one example on the other, or even as having one particular common artistic model. Of course, several scholars emphasized the supremacy of Aeschylus' interpretation and structure of *Oresteia* over other great Athenian artistic and architectural projects of the second half of the fifth century.[49] However, it seems that our two examples coincide by belonging to particular cultural and aesthetical expressions of ritually and politically configured myths, of existential importance for the life and development of cohesion of the polis.

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42. Wiles, *Tragedy in Athens – Performance Space and Theatrical Meaning*, 1997, 26.
43. F. Rainer, "Drama and Ritual," in *Drama and Religion* (ed.) James Redmond (Cambridge: Cambridge University Press, 1983), 170; H. Scolnicoy, "Theatre Space and the Theatrical Space Without," in *The Theatrical Space. Themes in Drama* (ed.) James Redmond (Cambridge: Cambridge University Press, 1987), 12; Wiles, *Tragedy in Athens – Performance Space and Theatrical Meaning*, 1997, 58.
44. Rainer, "Drama and Ritual," 1983, 169.
45. Wiles, *Tragedy in Athens – Performance Space and Theatrical Meaning*, 1997, 38.
46. Lesky, *Greek Tragedy*, 1967, 86.
47. Wiles, *Tragedy in Athens – Performance Space and Theatrical Meaning*, 1997, 35.
48. Ibid, 72.
49. Herington, *Athena Parthenos and Athena Polias*, 1955, 54.

Namely, both analyzed examples express the emotional and ritual culmination of the two most important festivals of the city of Athens: the tragedy performed in the theater belongs to the festival of the Great Dionysia, and Acropolis to the Great Panathenaia. Together they encompass all fulfillments of the expectations of the citizens of fifth-century Athens, based on their religious and political beliefs. Through the analyzed structure of the symbolical meanings in *Oresteia* and in the composition of the Acropolis, a mythical necessity, of importance to human existence, has been achieved: the fundamental link between all three worlds (the underworld, the world of men, and the world of gods).

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Balcony Railings as a Representative Element of Collective Memory: Balcony Railings of Ankara Apartment Blocks

By Zeynep Tuna Ultav[*]

Specialty about balcony as a building element is explained through its attribute of connecting different spheres that are public and private, the individual and collective, the indoor and outdoor (BK at the Biennale: anatomy of a balcony, 2014). Regarding it as the border between public and private, the individual and collective, the indoor and outdoor; this study aims to display the role of balcony railings of modern apartment block typology that developed rapidly through Flat Ownership Law in 1965, as a representative element of collective memory. Thus, the year 1965 marks a turning point in terms of housing production that in turn defines the new face of Ankara streets. The standardization of the apartment block due to the limitations of urban parcels forced architects or builders to search for means of breaking the monotony of this new face. One of the subsidiary elements were iron balcony railings that could be defined as "industrialized ornament". They act as a retouching in an industrial way in order to aesthetize what is very ordinary. This tactic of building supports Heynen's idea of dwelling, as in the first instance being associated with tradition, security, and harmony.[1] The aesthetized balcony railings are a response to the dilemma created by the ordinary apartment block typolog and the idea of dwelling. The representative role of balcony railings will be exhibited through an archival study on balcony railings of Ankara, in which nine districts (Bahçelievler, Emek, Anıttepe, Maltepe, Kızılay, Küçükeast, Kavaklıdere, Gaziosmanpaşa, Çankaya) were selected as the case study. Around 1900 apartment buildings built between 1950 and 1975 that carried the characteristics of "modernized ornament" were photographed and the photographs were categorized according to the following criteria: style, form, material, details, use of color, etc. In parallel with Durkheim's belief that every society exhibits and requires a sense of continuity with the past,[2] this study aims to reveal that the archival of these railings as a representative element would remind Ankara dwellers of their shared memory.

Introduction

Durkheim views the significance of memory in holding societies together and in sustaining the transmission of values.[3] As suggested by Misztal (2013), "memory stabilizes subjects and constitutes the present; [and] it is the name we give to the faculty that sustains continuity in collective and in individual

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1. Hilde Heynen, *The Architecture and Modernity. A Critique* (Cambridge: The MIT Press, 1999).

2. Barbara Misztal, *Theories of Social Remembering* (Berkshire: Open University Press, 2013).

3. Ibid.

experience" (117), and that every society exhibits and requires a sense of continuity with the past.

As stated by Altan Ergut (2009), research on collective memory studies should not be confined to canons or monumental buildings and/or structures. Departing from this idea, this study aims to reveal that balcony railings of Ankara apartment blocks (1950-75) should take attraction in terms of their place within the memory of the city dwellers.

Specialty about balcony as a building element is explained through its attribute of connecting different spheres that are public and private, individual and collective, indoor and outdoor (BK at the Biennale: anatomy of a balcony, 2014). This study aims to display the role of balcony railings of modern apartment block typology that emerged in Flat Ownership Law (*Kat Mülkiyet Kanunu*) in 1965, as a representative element of collective memory. 1965 marks a turning point in terms of housing production that in turn defines the new face of Ankara streets. The standardization of the apartment block due to the limitations of urban parcels forced architects or builders to search for means of breaking the monotony of this new face. One of the subsidiary elements were iron balcony railings that could be defined as "industrialized ornament". They act as a retouching in an industrial way in order to aesthetize what is very ordinary.[4] This tactic of building supports Heynen's idea of dwelling, as in the first instance being associated with tradition, security, and harmony.[5] The aesthetized balcony railings are a response to the dilemma created by the ordinary apartment block typology and the idea of dwelling.

The Significance of Balcony Railings in terms of Collective Memory

Façade determines the appearance of a building; it can be observed from outside like an image. Balcony is an important element of the apartment block typology as well as of its component, namely façade. However, "balcony" is also occasionally criticized for being unnecessary gaps due to zoning regulations arising from necessity.[6] It has been the subject of the exhibition at the international architecture exhibition of the Venice Architecture Biennale (7 June-23 November 2014) illustrated through photos, maps, models and life-size balconies (see Figure 1). Koolhaas (2014) points out the significance of balcony also in terms of politics: "Without the balcony, the history of the world would have looked completely different."[7] What is special about the balcony is that it is an element that connects different spheres: "It links up the public and private, the individual and collective, the indoor and outdoor."[8]

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4. Ali Cengizkan, *Modernin Saati* (Ankara: Mimarlar Derneği 1927 ve Boyut Yayın Grubu, 2002).

5. Heynen, *The Architecture and Modernity. A Critique*. 1999.

6. Mehmet Hamuroğlu, "Balkonlar Üzerine," *Ege Mimarlık* 94, no. 1 (1994): 39.

7. As cited in *BK at the Biennale: Anatomy of a Balcony.* (2014) https://www.tudelft.nl/en/2014/bk/bk-at-the-biennale-anatomy-of-a-balcony/. [Accessed October 25, 2018].

8. Avermaete, 2014 as cited in *BK at the Biennale: Anatomy of a Balcony*, 2014.

Figure 1. *Balcony Exhibition in Venice Architecture Biennale 2014*
Source: http://www.labiennale.org/en/architecture/2014/biennale-architettura-2014.

It is not wrong to state that neither balcony as an architectural element nor railings as its component have been a considerable issue within the relevant literature. One of the rarest references in this area is *İstanbul'un Balkonları* "İstanbul's Balconies" by Şengör and Barka (2004). Major attention to balcony railings has been given through the Exhibition, "The Balustrades of Beirut", organized in Beirut by Architect Mazen Heidar in order to take attraction to modern balcony railings in the city (see Figure 2).

Figure 2. *The Balustrades of Beirut Exhibition at Art Factum Gallery*
Source: http://www.archileb.com/article.php?id=708.

The significance of balcony railings in terms of collective memory can be elucidated in several aspects, two of which are highlighted in this study:

- In terms of rapid growth of apartment block typology.
- In terms of its role as "ornament".

In Terms of Rapid Growth of Apartment Block Typology

In Turkey, the elections of 1950 not only mark the end of the early republican era in favor of the more liberal economics and populist politics of the Democrat Party, but also bear the legacy of high modernism in architecture and urbanism:[9]

> Throughout the 1950s, the need for urban housing in response to massive migration to major cities from the countryside remained a monumental social, economic and political challenge for the DP government. Just to cite some figures, Turkey's urban population, which grew by 20.1 percent in the decade 1940-1950, reached a growth rate of 80.2 percent between 1950 and 1960. Real Estate and Credit Bank (Emlak Kredi Bankası) was established with the explicit purpose of financing urban housing, and the first collective housing typologies emerged featuring reinforced concrete slab block construction.[10]

Separating the proprietorship on a single plot was only possible until the point that two regulations went into law: The Title Deed Law (*Tapu Kanunu*) in 1954 and Flat Ownership Law (*Kat Mülkiyet Kanunu*) in 1965.[11] Thus, the 1950s witnessed an expansion in multi-story concrete apartment building construction and major endeavors of urban renewal projects, impacted by modernism in architecture. The increase in the number of Apartment building constructions increased rapidly after Turkey's Flat Property Legislation of 1965, whose foundations were laid in the 1950s and early 1960s. Permitting individual ownership of apartments in a building, this enactment fostered the build-sell model and the ensuing production of apartment buildings as anonymous objects:[12] "In this model, the contractor took property from the owner in exchange for flats. The expenses of construction were met by pre-selling the apartments. The possibility of construction with little capital, then, made this model prevalent in other locations as well."[13]

Being extensive and prevailing, the Apartment Block has verified the success

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9. Sibel Bozdoğan, "Turkey's Post-War modernism. A Retrospective Overview of Architecture, Urbanism and Politics in the 1950s," in *Mid-Century Modernism in Turkey: Architecture across Cultures in the 1950s and 1960s* (ed.) Meltem Ö. Gürel (New York and London: Routledge, 2016).

10. Ibid, 17.

11. Ürger, Ahmet Mucip. "Apartment Block as the Object of the Generic City." Master Thesis. Middle East Technical University, 2004

12. Meltem Ö. Gürel, "Seashore Readings: The Road from Sea Baths to Summerhouses in Mid-Twentieth Century Izmir," in *Mid-Century Modernism in Turkey: Architecture across Cultures in the 1950s and 1960s* (ed.) Meltem Ö. Gürel (New York and London: Routledge, 2016).

13. Ibid, 42.

of the "generic" forms of the 20th century urbanization. The unending proliferation of this same "unit" wiped out the target of the Early Republican era for a Modern city. Besides, it has derided the illusionary "urban dream" of this period for "control," and any endeavor for architectural specificity: "In Ankara, the success of the Apartment Block was the materialized evidence for the impossibility of ordering a city with the internal mechanisms of a single discipline."[14] Whereas the paradigm of modern residential architecture in the early republican era was the single-family house within a garden, the most common typology after 1950 was the reinforced concrete, multi-story apartment building.[15] Up to 1950s, the Apartment Block was viewed as "connoting a high status life", with the ramifications of another modern method for living, in a more crowded neighborhood, and not far to the urban core. However, after 1950s, it has lost its positive connotations becoming an economic phenomenon of property division and being looked down within the framework of architectural debates.[16] The fast increment of the usage of this new typology expanded in amount and spread everywhere throughout the country in a short period of time. In the next decades, it likewise helped the ascent of a new construction market turning into the generator of new arrangements such as mass housing projects restoring new urban extensions to the city.[17]

One of the main criticisms directed to this phenomenon of 1950's new typology was the inevitable result of "standardization". As stated by Ürger (2004), the first consequence was "the fragmentation of the land due to the parceling policy, and the second one was the fragmentation of the space due to the liberty of flat ownership, which will be major reason for the Apartment Block to lose its identity as a residential building and to transform to a frame."[18] Le Corbusier described housing in terms of standardization in his text *Vers Une Architecture* (Toward an Architecture) in 1923 as such:

> We are at a new age. A new soul. The industry, which has invaded everywhere, like a river that drifts towards its fate, brings us a new spiritual animated vehicle that fits the truth. The economy is governed by laws or unwilling actions ... The problem of the house is a question of age; the social equilibrium is built on this ... We have to create a mood for serial production. From our hearts and minds we can derive static thinking about the home, and if we can look at the problem from a critical and objective point of view, we will arrive at a healthy, ethical and beautiful home car, which is a mass-production house.[19]

Criticisms towards being standardized have been mainly echoed as a result of

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14. Ibid, 9.
15. Bozdoğan, "Turkey's Post-War modernism. A Retrospective Overview of Architecture, Urbanism and Politics in the 1950s," 2016.
16. Ürger, "Apartment Block as the Object of the Generic City," 2004.
17. Nazan Çapaoğlu, "Home as a 'Place': The Making of Domestic Space at Yeşiltepe Blocks," Master thesis (Middle East Technical University, 2008).
18. Ürger, "Apartment Block as the Object of the Generic City," 2004.
19. Le Corbusier, *Bir Mimarlığa Doğru (*İstanbul: Yapı Kredi Yayınları, 2007), 239.

the radical physical transformation of Ankara after 1950s. The identity of the highly planned capital has been transformed to a generic, which is defined by Ürger as "counter of identity, condition, emphasizing homogenization, blankness and similarity rather than difference:"[20] "The Apartment Block was the object of this condition and the subject of the transformation in the urban identity, both with its physical existence and with the mind-set it has radiated to the whole levels of the society. It has stripped out the identity of the city by its endless reproduction and by disjointing the artifacts, which were the materialization of the Republican Modern identity, like an archipelago."[21] The n times repetition of a `Typical Plan` constitutes an Apartment Block and n times repetition of the Apartment Block constitutes the city. This repetition and quantity based condition strips the identity and substitutes it with "generic."[22] Cengizkan explains this as such: "Unfortunately, housing production in Turkey pursuing the understanding of the spread of different and new discourses, will submit itself to the modern, collectivist, equalitarian, yet gradually ordinary sovereignty of apartment block scheme."[23]

Within all these standardized work, there was an element that added dynamism to façades of apartment buildings: Balcony railings. According to Güner (2006), in apartment building typology the only significance of artistic decisions was on the balcony rails.[24] Apartment buildings, produced with extreme economic solutions, have developed an expressive pattern in which the window-door association behind the thin iron railings, which are generally used as wide balconies among the floor slabs, is considered as a totally transparent façade. The most obvious expression variations that could be seen in these buildings were no more than a few aesthetic experiments on wooden balconies in large horizontal windows, iron balcony railings, or artistic experiments on apartment entrance doors. The apartment balconies that were built in the 1960s to compensate for the artistic missions that architects are increasingly believed to have lost in the massive housing production process.[25]

In Terms of its Role as Ornament

Davidovici (2004) explains the role of ornamentation on building façade as supporting the tectonics of a building and adding to its aesthetics; seeing its roots in the mannerist notion of façade as veil. Stuhlmacher (2004) states that the multi-dimensional complexity of architecture made way for two-dimensional textures.

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20. Ürger, "Apartment Block as the Object of the Generic City," 2004.

21. Ibid, 7.

22. Ürger, "Apartment Block as the Object of the Generic City," 2004.

23. Cengizkan, "1950'li Yılllarda Konut: Modernleşme ve Demokratikleşmenin Konut Sorununa Yansımaları," in *Cumhuriyetin Mekanları/Zamanları/İnsanları* (ed.) Elvan Altan Ergut and Bilge İmamoğlu (Ankara: Dipnot Yayınları, 2009).

24. As cited in Alkan Korkmaz, Sevinç, Gizem Özmen, Yasemin Oksel, and Ebru Bengisu, "[En]Closed Balconies: Something Extra," in *Proceedings of ARCHDESIGN '15* (ed.) H. Tulum (İstanbul: DAKAM Yayınları, 2015).

25. Güner's concern in his text is the apartment buildings in İzmir, the third largest city of Turkey; however his views can easily be applied for the case of Ankara; Deniz Güner, "İzmir'de Modern Konut Mimarlığı 1950-2006," *Planlama* 3 (2006).

The question of whether to use ornaments or not has been a debatable issue since Industrial Age: "For over a century, the controversial issue of ornament has oscillated between the two extreme conditions of being condemned or praised."[26] As stated by Healy (2004), "the advance of functionalism made the reception of ornament a needless excess, and the triple analogy within architectural discourse, that can be found in Loos's programmatic rejection of ornament, found in the work of Sullivan an effort to extrapolate from the grammar a meaningful principle of beauty and generation" (42). He further states that:

> "In the first instance Loos's rejection needs to be reconsidered, and outlined, within the problematic mimetic theory of functionalism, which with its movement to the inorganic, or rather the non-organic, as Graafland has pointed out, not only required the elimination of, or, liquidation of contradiction (Le Corbusier) but made of ornament a redundancy on two counts; in the first superfluous, because non-working parts for a machine where every component has a function is unimaginable, and with respect to the subjective aesthetic effect, the 'sublime', as absence, does not require such forms."[27]

According to Loos, ornament is acceptable if it is anonymous, un-authored: "Loos sanctions ornament if it is the product of an older culture- his examples are Persian carpets, Slovak laces, handcraft made by little old ladies- and if it brings pleasure to my fellow human beings."[28] Loos contended that primitive societies develop toward more refined, reserved, and buildings and products, toward austerity. The utilization of decoration in Modern Architecture, as indicated by Loos, was immoral, crafted by a criminal.[29] As stated by Davidovici (2004), Tafuri had recognized the difficulty (bordering on impossibility) of pure architectural expression, without recourse to the meanings inherent in its materials and forms. Tafuri defines modem architecture as "pure[30] architecture, form without utopia, sublime uselessness."[31]

One should remember Loos's statement while discussing ornamentation: "Ornamentation means wasted labor and wasted health. That was always the case. Today, however, it also means wasted material, and both mean wasted capital."[32] Acting from the reknown proclamation of Adolf Loos, modernism encounters

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26. Deniz Balık and Açalya Allmer, "A Critical Review of Ornament in Contemporary Architectural Theory and Practice," *A/Z* 13, no. 1 (2016).

27. Patrick Healy, "Ornament? Now," *OASE* 65 (2004): 42.

28. Christoph Grafe, Mark Pimlott and Mechtild Stuhlmacher, "Editorial," *OASE* 65 (2004): 4.

29. Korydon Smith, "Ornament and Austerity," in *Introducing Architectural Theory: Debating a Discipline* (ed.) Korydon Smith (London: Routledge, 2012).

30. The adjective "püre" comes not only from its simplicity and its reduction to primary geometrical forms but also metaphorically from its naivety in lacking of any social as well as historical content; Zeynep Tuna, "Reading Manfredo Tafuri: Architecture and Utopia Design and Capitalist Development," Master thesis (Middle East Technical University, 2002).

31. Manfredo Tafuri, *Architecture and Utopia Design and Capitalist Development* (Cambridge, Massachusetts and London: the MIT Press, 1976), ix.

32. Adolf Loos, *Ornament and Crime: Selected Essays* (UK: Ariadne Pr., 1997), 171.

beauty not in included added-on superfluities like ornaments, yet in the plain presentation of the materials themselves. Aside from conveying simplicity to the design, this approach bolsters honesty as respects the materials. A similar honesty is likewise legitimate for communicating every one of the constituents of the buildings.[33]

Functions of surface ornaments can be summarized below:

- Tendency to Give Dynamism to the Façade.
- Transmittance of Pleasure: "Ornament is the only visual art whose primary if not exclusive purpose is pleasure."[34] "Ornaments suggest not only an opening towards a pleasurable world that is elegant, fashionable and different."[35] "Ornament –the elaboration of functionally complete objects for the sake of visual pleasure– has a unique place among the arts."[36]
- Readability and Tectonics: The ornament is utilized as an important carrier of meaning that mediates between the mainstream, direct readability and the references to the rich architectonic culture of which it is very deliberately a part. If architects do not prevail with regards to consolidating the mainstream into their work, in being comprehended by people outside the discipline as well, in other words: if architects do not figure out how to take the desires of the public seriously, they will make themselves redundant very quickly. To address this Architecture should without a doubt turn out to be more creative. This makes Schinkel's announcement on the necessity of ornamentation, for the sake of readability, abruptly topical. What's more, the undertaking of the ornament as a mediator and as an aesthetic supporting of an understandable tectonics ends up winning out abstraction and pure cladding.[37]
- Expanding the Formal Repertoire of Architecture: "The experimentation with ornament may be taken, as Tony Fretton has suggested, as just one of several possible attempts to extend the formal repertoire of architecture. None of these experiments can be described as traditionalist."[38]
- Communication: "All the while a space and a surface, the interface between the building and the outside world secures a specific autonomy, a three-dimensionality that structures the three-dimensional building itself. In terms of both function and imagery, the façade satisfies the role conventionally assigned to ornament:"

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33. Suha Özkan, "Modern Türk Mimarlığı için Yeni Bir Giriş," in *Modern Turkish Architecture*. (ed.) Renata Holod, Ahmet Evin and Suha Özkan (University of Pennsylvania Press, 1984).

34. James Trilling, *The Language of Ornament* (London and New York: Thames and Hudson, 2001), 14.

35. Mechthild Stuhlmacher, "Vanity and self-will. The Complex, Contradictory Work of Hild Und K," *OASE* 65 (2004), 26.

36. James Trilling, *The Language of Ornament* (London and New York: Thames and Hudson, 2001), 6.

37. Stuhlmacher, "Vanity and self-will. The Complex, Contradictory Work of Hild Und K," 2004.

38. Grafe, Pimlott and Stuhlmacher, "Editorial," *OASE* 65 (2004).

"The communicative role of ornament, somewhere between text and texture, is explicitly articulated in the tension between (vertical) meaningful reading and (horizontal) visual rhythm, between seeing the façade as a written page and the destruction of its content through repetition and optical patterning."[39]

A person who skips the edge of modernity must be frightened in concrete ways from seeing his environment as empty from objects. The same fear should be true for façade design demands embodied in the way that housing exterior spaces are imitated. […] Architecture has evolved into the world of façades that have no iconographic meaning, which originate in the numerical excess of what they contain, and bear images that are considered sufficiently meaningful that it has only been seen there. Indoor spaces are filled with objects, outdoor spaces are filled with images and bags. The less the meaning of objects, images and pets, the greater the intensity of use of the same objects, images that can have a time meaning.[40]

The Case Study: Balcony Railings of Ankara (1950-75)

The representative role of balcony railings will be exhibited through an archival study on balcony railings of Ankara. Nine modernized districts (Bahçelievler, Emek, Anıttepe, Maltepe, Kızılay, Küçükeast, Ayrancı, Gaziosmanpaşa, Çankaya) were selected as a case study. Around 1900 apartment buildings built between 1950 and 1975 that carried the characteristics of "modernized ornament" were photographed.[41] The selection of the balcony railings did not have a relationship with the apartment buildings themselves taking granted that the most apartment buildings of the determined period showed similar standardized characteristics. The selection rather depended on the degree of modern character that resulted out of formal qualities of the balcony railings. With their modern character, the visual attributes of the railings did not indicate any relationship with vernacular building culture of Ankara.

There are several reasons for the selection of the city of Ankara for analysis. The first is that, until 1980, Turkey has set the architectural agenda in Ankara. There is an important constructional practice. It was a city suitable for understanding that period and the apartment building and that the republic's capital was a model for all kinds of modernization and renovation.[42] Ankara has been a model city for the other cities of Turkey from 1928 to 1960 through the original municipality management and its Board of Administration of Construction, whose decisions shaped the urban development.

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39. Davidovici, "Abstraction and Artifice," *OASE* 65 (2004): 118.

40. Uğur Tanyeli, *İstanbul 1900-2000. Konutu ve Modernleşmeyi Metropolden Okumak (*İstanbul: Akın Nalça Yayınları, 2004).

41. The photographs were categorized according to the following criteria: form, material, details, use of color, etc. Discussion related to this categorization is beyond the limits of this study.

42. Cengizkan, "Özgünlük ve Tekrarın Tekrarı, Konutta Yeni Gelişmeler ve Nesne Olarak Konut," *Arredamento Mimarlık* 1 (2004).

The features that define this period (1950-1975) can be summarized below:

- Rapid population growth. Housing increase. The economy-politics of the 1950-60 period: the beginning of the 1960s' consumer society discourse.
- Development of the construction industry and detailing technology; new and modern values.
- Variety of construction material options.
- Modern evolution from traditional construction workmanship.
- Architectural items are now produced as commodities, and this is the service of this image. Ankara is the vehicle of a newly created housing image.

Balcony railings can be read as the effort to aesthetize the "cubical" through subjective touch on façades (Figures 3-7). Apartment building typology, thus, offers a modern search mixed with ornamentation on the façade image against this standardization. Although, the employment of balcony railings in an "ornamented" grammar refers to a search for creating identity, there are conflicts in the use of railings as ornaments in modern apartment block typology. In the case of balconies, "ornaments" appear as industrialized elements and the railings become the representation of modernized ornament. In this search for a grammar of ornament, it is possible to call railings "retouching", yet "through industrial materials."[43] In addition, "suddenly the modern abstraction of this architecture is no longer hidden behind its ornamentation but in fact made visible through it."[44] Through the repetition of these elements throughout the city –in different districts, it is seen that ornamentation is also standardized and a certain grammar is set.

Figure 3. *Ankara Balcony Railings, District 1 (Emek)*
Source: The author's archive.

43. Ibid, 220.
44. Stuhlmacher, "Vanity and self-will. The Complex, Contradictory Work of Hild Und K," *OASE* 65 (2004).

Figure 4. *Ankara Balcony Railings, District 2 (Kızılay)*
Source: The author's archive.

Figure 5. *Ankara Balcony Railings, District 3 (Maltepe)*
Source: The author's archive.

Figure 6. *Ankara Balcony Railings, District 4 (Esat)*
Source: The author's archive.

Figure 7. *Ankara Balcony Railings, District 5 (Anıttepe)*
Source: The author's archive.

Although, balcony railings have a rather obvious function of firstly preventing from falling down, acting as a barrier; secondly hiding the balcony space leastwise ensuring its privacy; their grammar reveals the hints of ornament. In terms of both function and imagery, the railings fulfil the role assigned on them. It is also observed that these elements have been employed to provide dynamism to

façades. They help increase the readability and tectonics. As a whole, they help extend the formal repertoire of apartment building architecture in the city of Ankara forming a consistent grammar. The communicative role of the ornament, in this case, the balcony railings, is articulated in the tension between seeing the façade as a written page and the destruction of its content through repetition and patterning. This pattern throughout the city creates the continuity of architectural language in the sense that "ornament usually associates with the façades or the plasticity of buildings yet it also establishes relationships with the building and the urban fabric."[45]

Conclusions

As put forward by Benjamin, "Every image of the past that is not recognized by the present as one of its own concerns threatens to disappear irretrievably."[46] Tapan points out to the most important element that saves a society from being nomad as the instinct to add new values to all the local values in the past. In other words, when a society is established, it takes place by adopting the values that make up the environment.[47] In this respect, this study aims to reveal that balcony railings of Ankara apartments (1950-75) as a representative element would remind Ankara dwellers of their shared memory related to their physical, social and economic environment. These elements can also be regarded as components of "architectural heritage". Architectural heritage is not just comprised of buildings themselves, but all parts of the building –from architectural interiors to balcony railings– are considered a part of this heritage, reflecting the design and architectural understanding of the period in which it was built. It is important to record these components, which are relatively difficult to preserve being just contributing as one part of the whole.

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45. Balık and Allmer. "A Critical Review of Ornament in Contemporary Architectural Theory and Practice," 2016, 166.

46, As cited in Carel Bertram, *Imagining the Turkish House: Collective Visions of Home* (Austin: University of Texas Press, 2008).

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