RESEARCH ACTIVITY REPORT

Sophia Arbara

Phd Candidate
Roma Tre University| Department of Architecture | Ciclo 35
Early Stage Researcher & Marie - Sklodowska Curie Fellow
Horizon 2020 Heriland Program

December 2020

INDEX

OVERVIEW OF RESEARCH ACTIVITIES (2019 - 2020)

Courses

"Le parole e le cose", Roma Tre doctoral training courses

ABE003 | Spatial Analysis for urban and regional studies
An introduction to Space Syntax and GIS, TU Delft

Masterclasses

Amsterdam & TU Delft Masterclass,
November 2019

"Changing Environments", Heriland Masterclass, Gothenborg University
May 2020, Online

"The spatial Turn", Heriland Masterclass, Newcastle University
October 2020, Online

Conferences | Webinars

SCL Webinar Series | MIT Senseable City Lab
2020 - 2021, Online

UEA 2020 Lectures on Urban Economics
June - July 2020, Online

AoU and UDG Joint Symposium – The Fifteen Minute City
16 -18 September 2020, Online

(forth.)"Criticall International Conference on Architectural Design and Criticism, organized by ETSAM
25 - 26 March, Sao Paolo, Brazil

(forth.)"Governing the Unknown", Adaptive spatial Planning in the age of Uncertainty
29 March - 2 April 2021, Tirana, Albania

Tutoring

ArenA Buzzi Unicem: a project for a multipurpose space at the Guidonia cement plant, Roma Tre University, Department of Architecture
prof. P. Desider & Alfredo Pirri
October 2020, Rome

Papers

"Adaptability in times of crises
How mobility infrastructure turns into moving healthcare facilities"
Heriland blog Article, April 2020
https://www.heriland.eu/2020/04/21/adaptability-in-times-of-crises-how-mobility-infrastructure-turns-into-moving-healthcare-facilities/

"Spaces in Motion. Hybrid collectivities for a nomadic practice", Sophia Arbara, Rocio Calzado Lopez, Luis Lecea
Atlantis TU Delft Magazine 30.3, p. 11-14, June 2020

(forth.) "In between a nomadic and a sedentary practice", Sophia Arbara, Rocio Calzado Lopez
March 2021, Criticall International conference on Architectural Design and-Criticism

(forth.) "Using macro- and micro- urban analysis tools to understand culture led pedestrian flows. The case of the Pantheon – Trevi route in times of Covid-19 and beyond"
March - April 2021, Conference of Young Academic Network AESOP "Governing the Unkonwn", Tirana, Albania

Heriland work package activities

Organization with Work Package 4 "Shifting demographies and contested identities" the Jerusalem Masterclass taking place in March 2021

THESIS OUTLINE AND DRAFT
(NOVEMBER 2020)

Thesis outline

Understanding the reciprocal relationship between cultural mobility, culture and mobility in urban space

The case of Rome's street networks

Phd Candidate:
Sophia Arbara

Università degli Studi Roma Tre
Department of Architecture
under the program of HeriLand

Supervisory board:
Maria Margarita Segarra Lagunes
Francesco Cellini
Anna Laura Palazzo

November 2020

ABSTRACT

Along with contemporary urban theories which put on the epicenter the interrelation between social life and physical space as networks, movement and static constructs, institutions working towards culturally sustainable environments have adopted new conceptual frameworks to successfully manage historic sites as part of an integrated urban system.
This emerging direction in considering heritage as part of urban space opens up a dialogue where there is a need to test the existing and develop new tools for an integrative practice. With the aim to further explore this emerging direction, this research focuses on one important challenge, linked to cultural space: the notion of mobility.

The hypothesis foregrounded here is that cultural heritage and mobility are strongly related in two aspects; cultural spaces have long been generators of movement in urban areas, attracting large flows of people and the opposite; movement on a larger scale and across time, if crystallized, can form part of both an intangible and tangible urban heritage. The spatial element selected to frame this study is the most important container of mobility and heritage sites; the space of the street. The element of the street, is obviously not limited to a mere functional element of cities; being a public space, a networked space, a a space to project the image of the city, it performs multiple roles within the city. How do the characteristics of the street space affect the valorization of cultural sites and cultural movement? Can the street, as carrier of intangible (movement) and tangible (space) become an cultural artifact per se?

This project tackles these questions through the territory of Rome, a palimpsest with a rich anatomy. Its thousand years of urbanization, the vast and conflicting heritage of the city, the variety of representational regimes and its geographical features make it the most appropriate ground to explore the hypothesis from a multiplicity of angles, time periods and methods.

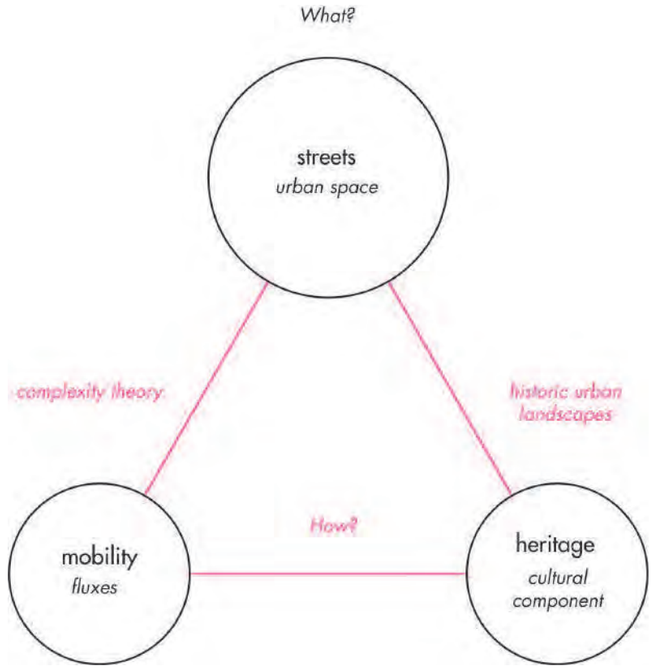
Within the city's broad chronological division, we use methodologies applied in the fields of urban design and the study of cities to read three main episodes and street networks aiming to understand, test and project upon possible alternatives for the future city of Rome; a core aspect of which is the reinterpretation of its relationship between movement and culture.

Thesis Index

1.0 INTRODUCTION

1.1BACKGROUND

Managing and understanding what is heritage in an era of urbanization and increased mobility is becoming more and more complex as cities are facing challenges such as climate change, urban development, tourism pressures. Probably now more than ever, the conflict of our tangible and intangible heritage values that are in conflict with our equally own values of progress and development (Ganiatsas 2010)
The relationship between heritage and the city is complex yet crucial to be adressed, especially in an era of increased culutre-led mobility -at least before covid-19.
Urbanism, being the discipline that is concerned with the relationship between the spatial structure of the physical built environment and the socioeconomic life of urban spaces can provide a science based, participatory and design-oriented synthesis of a practice (Orff, 2016)to address and respond to these challenges setting the ground to move towards inclusive and sustainable urban spaces.



1.2 HYPOTHESES, RESEARCH AIM AND SCOPE

1.2.1 Hypothesis

The hypothesis foregrounded in this research project is the following.
Cultural heritage and mobility are strongly related in two aspects; cultural spaces have long been generators of movement in urban areas and the opposite; movement on a larger scale and across time, if crystallized, becomes part of the urban heritage:

1.2.2 Aim of the research

a. Theoretical
Provide a deeper understanding of how cultural heritage has been valorized in regards to its position in space and in particular the link between urban movement, mobility and heritage valorization. Can movement across one streetscape become heritage and the opposite; how does culture-led movement affect the urban space of the street?

b. Analytical
Understand while conducting the three case studies, whether design interventions have managed to crystallize this past movement and/or enhance present accessibility and circulation

c. Methodological
Through the proposed research design to provide a methodological framework to consider how certain design and planning decisions can valorize urban space as heritage. How can urban design and planning tools better integrate strategies to consider the space of the street (and more general urban space) as heritage?

1.2.3 Scope of the research

The present research project falls within the scope of urban design, urbanism and spatial analysis, yet it incorporates knowledge and methods that go beyond the disciplinary boundaries, taking an interdisciplinary approach. For the scope of this topic, theoretical frameworks and methodological tools deriving from the field of landscape design, urban planning and (critical) heritage studies, are incorporated in this project. Through this approach we aim to test methods for spatial analysis and identify new research trajectories for future practice.

2.0 RESEARCH METHODOLOGY

In this part we explain the methods, tools and models that we intend to use to carry on this research project. Both a brief explanation of the selected methods ("how") as well as the theoretical underpinnings of these will be provided in this chapter ("why").

2.1 Background and definitions. Literature review

2.1.1 The nature of the question

As Rittel and Weber already defined in 1973, Planning and design problems are wicked problems and thus, "The information needed to understand the problem depends upon one's idea for solving it." (Rittel and Webber 1973)
Within that frame, we will provide explanations as of why each method was considered appropriate for this question yet the reader should bear in mind that when dealing with "wicked problems", a unique formulation of the problem does not exist, neither one true or false solution but instead "better" or "worse". That said, the methodology used and proposed here is not to be seen as a "recipe" to be implemented per se in other contexts and cases, but rather as an attempt to shed light on the topic of mobility, accessibility, valorization of cultural heritage and urban street space and provide a methodological framework to carry on such studies within these disciplines and by using contemporary methods and tools.

2.1.2 The study of cities / understanding urban networks

On a broader framework, the methodology implemented in this project aims to shed light on the study of the spatial culture of cities, understanding them as complex organisms where material, immaterial flows and networks, past and present are intertwined.
In the introduction to his Cities and Complexity, Batty (2005) notes that CTC have provided sound theoretical basis with mathematical formalism to the intuitive ideas suggested by Jean Jacobs (1961) (and Christopher Alexander too) more than 40 years ago.
Complexity theory of cities according to Portugali, is not about inventing a new theory but giving a single and sound theoretical basis to a variety of urban phenomena and properties that so far were perceived as independent of each other (Portugali 2011). And in particular the framework he sets
aim to incorporate both cultures - the culture of the sciences and the scientists and the culture of the arts and humanities (Portugali 2011). Batty, goes beyond a historical analysis of complexity and cities and adds an approach driven by a focus on the spatial structure. In its book, "The New Science of Cities", he argues that "...cities must now be looked at as constellations of interactions, communications, flows, and networks, rather than as -locations..." (p. 13) and addresses urban structures such as space syntax and network morphology with research examples in Chapters 6 and 7 which become important precedents for the methodological approach of this thesis (Batty, 2017).

This adds to the already established literature of Hillier and Hanson, who, starting from the premise that there is a dynamic interaction between space and social relations, they assess how the configuration of space affects human cognition, summarizing the empirical experience of "inter-visibility" in a mathematical formula (Hillier & Hansen, 1984). Space syntax theory assumes that urban form is a product of spatial culture (Hillier and Hanson 1986) and provides a link between the material and immaterial aspects of 'spatial' culture. Its conceptual basis seeks to address the space–society relationship as a dynamic and open-ended formative process of spatial and social structures in mutual co-dependence (Hillier and Vaughan 2007). The predominance in much empirical space syntax research is the correlation between

'integration' (spatial form) and 'movement' (temporal process), two aspects that this thesis will aim to explore.
By facilitating the comparative study of urban form through time space syntax research has opened up a number of possibilities for exploring the relationship between urban transformations and social activity (Griffiths 2012). In addition to that, mobilities design is over the past years becoming a research field in and of its own, with scholars arguing that there is a pressing need for targeting the material, physical and design-oriented dimensions of multiple mobilities (Jensen in Griffiths and Lünen 2016).

Adopting both the theoretical drivers as methodological guidelines and the computational tools available to conduct such a research is what this research aims for. The methodological question, thus, that this project poses is: which tools allow us to better integrate heritage and accessibility to the urban planning & design processes?

2.1.4 T Managing and understanding cultural heritage in an era of increased urbanization

The contemporary debate on cultural heritage, supported by the Historic Urban Landscape (HUL) approach by UNESCO (2011) seeks ways to adapt to the conditions of change and aspires to go beyond what has been the definition of the historic city. "In fact, the partition between what is 'historic' and what is not is in-creasingly seen as an artificial one, as every city is densely layered as a series of 'episodes', where heritage is viewed as the flow and mix of these events rather than as an arbitrary selection of some urban parts defined as 'historic'."(Bandarin and Oers 2012,190). While until recently cultural heritage had been seen primarily through conservation, seen as a static object (Obad Š itaroc, Bojani Obad Š itaroci, and Mr a 2019), the HUL approach encourages heritage to be integrated into planning policy and design and argues that planning should enable mechanisms for balancing sustainable development and protection.
Aside from the HUL, over the past years a series of policies and recommendations have adopted a broader and innovative framework to tackle heritage as part of urban design and planning.

• The Charter on Sustainable European Cities (2007) and the European Urban Charter II (2008) puts emphasis on multi- and inter-disciplinary research tools for effective integration of cultural heritage

• The Valletta Principles for the Safeguarding and Management of Historic Cities, Towns and Urban Areas (2011) stress the necessity to protect and integrate historic and traditional areas into modern community life acknowledging this need as a key element for spatial planning and design

• The Paris Declaration on Heritage as a Driver of Development (2011) recommends integrating heritage into sustainable regional development plans, tourism and the economy.
(Obad Š itaroc, Bojani Obad Š itaroci, and Mr a 2019)

The aforementioned tendencies towards an integration of approaches to the design and management of the built environment are crucial since for the first time since the fracture of modernism, an integration of heritage conservation and urban development as a holistic concept and practice calling for new approaches. Policies and toolkits still need to be defined, and results need to be demonstrated, but across the world examples exist and experiments are taking place(Bandarin and Oers 2012, 188)

2.2 The methodological elements. Outline

To develop this project a combination of methods is being used as a holistic methodology which consists basically of three main parts.

A. The qualitative mapping techniques (Corner 2011; Amoroso, 2009)

"Through rendering visible multiple and sometimes disparate field conditions, mapping allows for an understanding of terrain as only the surface expression of a complex and dynamic imbroglio of social and natural processes. ", James Corner, The agency of mapping

B. The analysis of recent planning & design decisions that informed design in the selected case studies

C. The conduct of an analysis combining spatial macro analysis (space syntax, gis) and microscale tools. (Nes, Lopez, 2010)

The research methodology is designed as a research in design methodology, a process that by being tested in the case studies we expect it to be refined and redesigned while conducting this study.

3.0 THE SPACE OF THE STREET

Street patterns are a dominant component of a city's spatial form and the element tying cultural sites, being cultural artefacts themselves as well as powerful elements that shape the readability between the singular and the universal. Thus, the spatial component where the research question takes place concentrate on this important element of the public realm, circulation space. As aptly stated in "The street as a project", "the confusion between the juridical, infrastructural, and representational aspects of circulation space has made of the street a slippery subject to discuss" (Giudici, 2014). Streets are considered a significant element affecting human spatial behavior, generating mobility and accessibility (Batty, 2005; Marshall, 2005), human wayfinding and imageability (Lynch, 1990), spaces affecting the safety and vitality of urban life (A. B. Jacobs 1995; J. Jacobs 1961; Gehl 2001). The literature about the street is rich yet fragmented. From an architectural and urban point of view, to analyze these elements means to study the void ("the space between buildings"), its built form and the spatial networks as a whole.

What this project aims to look at more closely at is how the street (in our case the three chosen case studies) becomes a space that crystalizes past movement, which (if any) design decisions have embraced this past movement, how current accessibility favors this valorization and what are the tools to analyze and design in the future incorporating heritage and mobility in the urban realm.

A complete historical review of the urban and architectural discourse on streets falls beyond the scope of this project. However, a literature review on the main directions that have shaped the theory and design of the space "between buildings" is crucial before narrowing down to the street in relation to movement and heritage.

3.1 Understanding the space of the street. A literature review

3.1.1 The street as container of landmarks and artifacts

"The view from the Road" is probably amongst the fundamental writings in the architectural discipline that conducted a thorough investigation of the street with the same detail as if it was an architectural element (Appleyard, Lynch, and Myer 1964). This work later on influenced the writing of "Learning from Las Vegas" by Robert Venturi, Denise Scott Brown, and Steven Izenour's Yale book which uses strong representational mapping techniques to analyze the stripe of Las Vegas, through symbolism, icons, drawing parallels to Rome in the '40s. The street as container of landmarks - heritage sites, as an intertwined element with its artifacts that creates an "imageability" of the urban space has been the element of study in Kevin Lynch's "Image of the city" with the environmental image having its original function in permitting purposeful mobility. A sub-question that emerges by the aforementioned literature is whether a street itself can be considered an artifact, or it is the elements (architectural objects) that make its cultural importance.

3.1.2 The street as a vibrant public space

. „The sole legitimacy of the street as public space. Without it there is no city" (Kostof, the city shaped, 1992, p.194)

Below such categorization fall Jacobs ideas arguing on a rediscovery of urbanism and the need for vibrant streets that embrace identity, diversity, community and belonging (J. Jacobs 1961). Building upon the fact that streets are amongst the primary spaces where social activity takes place, Jan Gehl shares ideas on a more "human-centered" approach to public space and the need to a careful observation amongst the interaction between public space and public life (Gehl 2001). At the same time that Jane Jacobs was

arguing for community centered approach, in 1961, Gordon Cullen began the Townscape movement with his book "The Concise Townscape" aiming to return to a more "livable" and "human scale" design of cities (Cullen 1995). Cullen criticized the modern movement of thinking too much in "plan" instead of focusing on people´s perception and suggested a return to a traditional city-square model, receiving both willing recipients and criticism for showing "a populistic, naïve and nostalgic character". (Rowe and Koetter 1983, 36)

3.1.3 The street as infrastructure and networks

An important category of scholars emerging particularly over the past decades are the ones critically engaging with the street as networked infrastructures and flows. Graham and Marvin make an important point by addressing how the contemporary city focuses on "networked spaces" yet at the same time urban spaces are characterized by an increased fragmented condition (Graham, n.d.). On a similar note notable architects and urbanists like Koolhaas, Easterling and Martin Pawley insist, in short, that in the contemporary city, more than ever, "infrastructure, architecture, and landscape amalgamate to become one complex" (Angelil and Klingmann 1999)). Amongst the theorists opening up the discourse on infrastructural space is Stan Allen, who, from the standpoint of an architect, gave a renewed perspective on infrastructures and their potential to shape both local and site specific (bottom - up) as well as territorial (and top - down) dynamics (Allen 1999).

3.1.4 The street as a power apparatus

The space of circulation as a space where social inequality, the state apparatus and surveillance mechanisms reveal their power. Under this category, this discussion was first put on the forefront regarding the city by Levebvre's "Right to city" and later followed by Soja´s writings about spatial justice where he attempts to link this concept to infrastructure through the example of uneven distribution of resources of the Los Angeles Transportation Authority (Soja, 2010).

The streets selected in our Roman case studies, encompass theoretical underpinnings of all the aforementioned broader categorization which in the development of this project becomes the theoretical framework through which to "read" and understand the multiple roles of the space of the street.

4.0 THE ROMAN CONTEXT

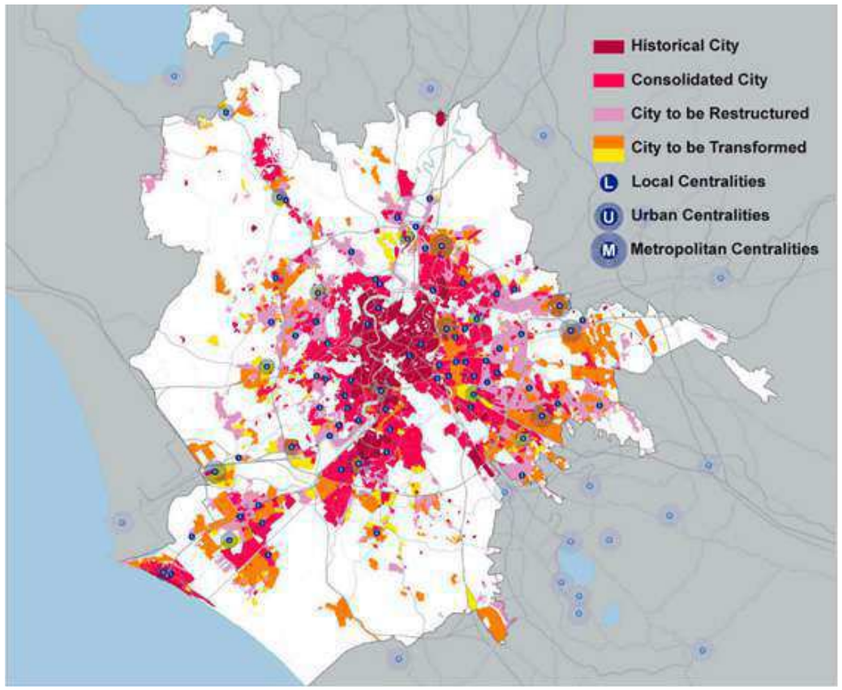
4.1 Why Rome?

The Roman territory, a place that counts with several thousand years of urbanism we believe can illustrate in a unique way the posed research question; the complex relationship between mobility, urban space and cultural artefacts. In addition, the fact that Rome´s development has been subject to extensive research in several academic disciplines and from different perspectives offers a rich empirical material to develop and synthesize the question posed (Bjur and Frizell 2009, 12).

At the same time, the research conducted over the past years in the field of social and urban sciences about contemporary Rome suggest the need for a systemic knowledge regarding the city and its urbanization processes, bridging the different disciplines under a "system of systems" (Copolla and Punziano 2018, 14).

Being a renowned and almost "obligatory" destination for tourism due to its rich cultural heritage (declared a World Heritage site by UNESCO in 1980), Rome holds an important position in the international and national tourism market (Gemmiti 2019, 2). Over the centuries of urbanization, the city has "produced" an extremely rich and extraordinarily conflicting heritage, the interpretation of which goes far beyond local interests but concerns the interpretation of Western civilization. The, till now, massive exploitation by the tourism industry has reduced the historical complexity of Rome to mere imagery, and has fostered a long-discussed division; that of the historic city (the city center) and the periphery that for a long time has lacked a cohesive urban design and planning strategy.

This is a result of the urbanization processes taking place during the period after the second World War, where planning in Rome mainly focused on safeguarding the historic center (partly because of policing by an international network of intellectuals), (Montanari 1976) and allowed for urban sprawl (deliberately or not) in the suburbs to happen (Montanari 1993).



Source: http://www.urbanistica.comune.roma.it/prg.html

4.1.1 The latest Master Plan of the city. Detailed planning policies, challenging implementation

The latest Master Plan of the city or Piano Regolatore Generale / PRG (adopted in 2003 and approved in 2008) has emphasized on responding to the pressing challenges that the city faces with the strategy to "modernizzare il centro storico e storicizzare la periferia", (Marcelloni 2003, 81), to modernize the historic center whilst revealing the history of its periphery. This strategy comes together with the initiative to create new urban centralities each of them hosting a variety of programs and encompassing a wide area of the urban metropolis and is the result of a series of policies implemented between 1993 and 2008 by the center - left city council.

Inspired by European principles of sustainable development of the late '90s where an integrated urban planning strategy along with transport policies became the new benchmark for European cities (Delpirou 2012), the new Masterplan of Rome, PRG 2003 appeared as the successful "Roman development model" (Marcelloni 2003) following the aforementioned principles. This came as a strong turning point for the planning policies of a city, that until recently was characterized by urban planners as the „bottom class in European planning" (Insolera 1962).

The new PRG aimed to create a direct link between mobility and urban development in the sense that the former is conditional upon the presence or the creation of a station on the urban or regional rail network (Delpirou 2012). In addition, the PRG aimed to concentrate suburban development around the most important stations, by putting these stations at the heart of the new centralities.

Albeit the new PRG appeared as a promising and detailed set of regulations in order to plan the future of the city, disparities among the intentions of urban policies and the changes adopted on the ground are prominent. Identifying the major challenges and weak points of its implementation, is crucial in order to identify the complexities of our project, understand the urban frame and by taking a step back, address those from a different perspective.

- There have been difficulties in achieving feasible institutional cooperation between entities and agencies that have a mutual interest in establishing a 'correspondence' between existing administrative jurisdictions (neighbouring regions, provinces and comuni) and appropriate planning units (or urban 'basins')

- The focus on relaunching and increasing the "competitiveness" of the city, reestablishing tourism as the central engine of the economy along with the emergence of Peer to Peer rental platforms (eg. Airbnb) have put more pressure on the city's historic center fostering the division between a historic center – museum and the active city.

- The ambition to create an urban archipelago of new centers is being particularly challenging due to the city's land ownership patterns. Since the end of the Second World War and till today, a small number of owners control most of the land having a strong influence over both political decisions and the actual enforcement of these. The new centralities are affected by this fact in two ways; they are positioned according to land availability, being subject to approval by the landowners and on the other hand, they are composed by private real estate operations. As a result, the developers control the actual realization of the project, focusing on the most profitable part (eg. Shopping malls and low-quality housing). (Aureli 2010, 52)

4.1.2 Moving beyond policies; incorporating design research to envision the future city

Policies are able to set the rules of a game which transform into urban space only if, amongst other political, economic and legislative factors, the design tools and strategies for implementation are defined and tested throughout the process. In order for the city to overcome these challenges and be able to create new centralities that will not remain fragments, for its urban space to be perceived as one complex, heterogenous, polycentric yet interactive system and for the transient and permanent communities to interact in space it is important to take a step back. This includes asking both theoretical and practice-oriented questions that could lead to a research-based, design-oriented approach to think about the tools and ways to reshape urban space. With a focus on informing research design, the academic context can become an important framework to address these questions.

4.1.3 Meta-framework; understanding how culture-led movement and heritage valorization affect the urban environment

Rome is a city that is impossible to explore, understand and project for without a meta-framework to do so. To some extend Rome shares challenges commonly found among great cities across the world: congestion, pollution, intractable traffic problems, lack of green spaces, degradation of the urban landscape, and the disintegration of social and human relations (Archibugi 2004, 2). And even though the problems are ubiquitous, their Roman context is, indeed, unusual and probably more challenging to decode. It is important to observe that these typical factors of crisis and degradation, which are common to any great conurbation, are applied, in Rome's case, to an unusual historical and environmental situation (Archibugi 2004, 2).

Starting from the city´s long discussed dualities between the historic city and the metropolis, the preservation of past heritage and future development, the incoming, temporary visitor flows and the communities on the site, the relation between mobility, urban space and cultural artefacts becomes a key question and element to understand the past and be able to project upon alternative futures.
The new polycentric model is going to work only if we have thought about its ties and the question between the historic city and the surroundings is only going to be overcome if we expand and bring these concepts together.

The particular moment amid a pandemic crisis, where questions such as the city's resiliency, the use of urban space and mobility are being challenged, can be seen as a crucial moment to reconceptualize and rethink mobility and heritage through the urban element of the street. Quality of life and the renewal of natural and cultural resources thinking of tools and strategies to design Mobility and heritage management is being a challenge in the era of mass tourism, yet historically the connectivity of the area has been its point of strength and reason of urbanization of adjacent to the network area

4.1.4 Historical frame. Understanding the past, projecting upon the future. The palimpsest as a conceptual framework

The extraordinary composition of Rome poses another complex challenge which is the dynamic historic construct. To read this, the concept of the palimpsest[1] , a framework that has recurrently been used to

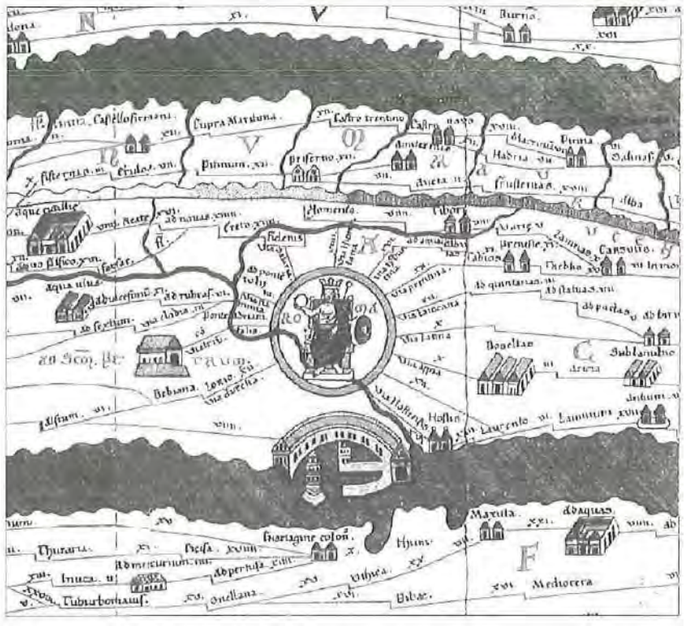
1 We adopt the metaphor of "palimpsest" as a conceptual tool to read the complex historical layering of the city. Being aware of the challenges and the epistemological debate on using metaphors as a framing device (these can be partial and selective, revealing some aspect of the whole while obscuring others), we believe that in the case of Rome, epistemological debate exists in social sciences regarding the use of metaphors as a framing device that may carry advantages and disadvantages. On one hand, metaphorical models can be partial and selective, revealing some aspects of the whole while obscuring others - yet each metaphor is carrying important insights (Rigney, 2001). In this case, the metaphors used are limited in framing and communicating the theoretical concept and reading of the historical layers of the city.

explain the layered construct of architectural monuments and urban morphologies (Azimzadeh and Bjur 2007, 2) is adopted. Two approaches can be identified: the dynamic and the static. An analogy with Sigmund Freud´s recognition of the similarity between the way Rome evolved in stages, and the mind of an individual person, could illustrate the former. He suggested that Rome could be imagined as a psychic entity, with a similarly long past as the human habitation, an entity in which nothing that has once come into existence has passed away. All the earlier phases of development will therefore continue to exist alongside the latest one, forming a complex and dynamic interaction between the various layers. (Freud 1979). This dynamic approach is understood as a concept that does not limit the reading of the city on the appearance of the physical construct, the urban morphology but puts weight on the intangible underlying spatial systems.

Scholars have called Rome "a dynamic place, where the past is jumbled with the present, where people live amid a variegated landscape that is always changing. This is neither an austere nor a ruined city. It is a city of layers" (Agnew 1995 in Gemmiti 2019, 3); "a number of capitals in one" (Cellamare 2017b in Gemmiti, 3). If the past is neither ordered nor understood in a linear way, other methods of organizing and structuring it become important. In space, one of the ways of joining individual memories into meaningful wholes is movement: both the movement of individuals as they go about the city and the shared knowledge and experience of such routes as ritual processions.

Having set the overall frame, on the following chapters we explore the intertwined dialectic between cultural artefacts and mobility in the urban context of Rome through various scales and time periods, considering that the space of the street has been the place best embodies this; a key element since the foundation of Roman urbanization.

4.2 The intertwined relationship between urban space and mobility



Foundation of Rome. The crossroad Via Salaria - Sacred way
Léon Homo, Rome impériale el l'urbanisme dans ranliquité (Paris: Albin Michel,1951), Part I, Chapter 2.1.2.

Whatever the genealogy of Rome's greatness, it is not premised on geography (Taylor, Rinne, and Kostof 2017). Rome stood near the middle of the bustling Mediterranean basin at an important intersection of land routes and the Tiber, the largest and most navigable river in the region (Taylor, Rinne, and Kostof 2017).The city is uniquely precise because the basis of its foundation was not a hill, but a crossroad, inhabited by an ethnically mixed group of citizens; Plutarch´s version considers Rome a sanctuary founded by Romulus, open to all fugitives of the region (Plutarch12,1).

The street is not only the basic figure of the first foundation of the city, but also a link to the territory and to the 'other', with the tribes residing on the arch of volcanoes that surround the river Tiber (Aureli 2010). These tribes are initially strong enemies that oppose Rome's quite developed hill centers with which the city is both in commercial relationship, and occasionally in conflict. The roads that connected Rome to these other tribal seats therefore became not mere linear connections but spaces of dialogue and conflict (Giudici 2014). The infrastructural connections which in the case of other cities started outside the walls, in the case of Rome were at the very heart of its foundation. "From this first condition, the Romans were to distil the cardo decumanus model which links city and territory through the continuity of the road" (Aureli 2010, 15). The paving of the forum in limestone can be seen as the first creation of a space for walking, in which walking was not disrupted by pot holes, puddles, mud and other filth. The extension of surfaces of this type created a network of paved streets that extended across the city and into the countryside. This process was stimulated not by the simple extension of streets into the countryside but by a change in Rome's approach to space encapsulated by the construction of the Via Appia from Rome to Capua in 312 BCE as a public space of over 100 miles (Laurence in Griffiths and Lünen 2016)

What is the relationship with those movements and today´s urbanization?

Interventions in Modern Rome on the street network affecting the reading of cultural spaces

The strong relationship between street networks and cultural spaces can be perceived through examples of changes in the city´s movement patterns, informed by policy & design interventions happening over the last decades. The Forum Romanum and the neighboring Imperial Fora are two such cases that demonstrate this mutual dependency from two very different angles. Whilst playing today a similar role as places of memory their relationship to movement and the street space differ significantly. The Forum Romanum, functioning as a node on several major ancient, medieval and Renaissance routes was preserved for centuries till it became an enclosed space in the twentieth century (Russell 2014, 480). In the case of the Imperial Fora, on the other hand, the space was isolated from movement until Mussolini as part of its revitalization campaign used movement on the processional route of the Via dell'Impero to revitalize with strong gestures the area as central to Roman cultural memory and identity.
These areas had experienced continuity in movement patterns from antiquity to the twentieth century till urban interventions essentially reversed their relationship to the city and the way cultural spaces are being valued and perceived.

Another more recent example which will be elaborated further in the following chapters, is the pedestrianization of the Trevi – Pantheon route as part of the interventions taking place in the historic city to enhance the cultural paths of it.

The pattern of long-term continuity and the recent change in each area's relationship to the wider city are direct consequences of the way cultural heritage has been consumed and cultural memory constructed through movement (Russell 2014), Today, this understanding can illuminate the enduring influence of historic street networks on the urban environment providing us with insights regarding future interventions.

5.0 CASE STUDIES

5.1 Overview on the case study selection

In order to disentangle the complexities of the Roman palimpsest and understand the interdependencies between cultural movement and urban space, we start from three main street networks as key elements to explore the posed question.
We adopt Mario Sanfilippo´s categorization in "Roma: La costruzione di una capitale" which suggests following division of the city in three phases: that of Ancient Rome, Christian Rome and from 1870 on, Third Rome or Rome as the capital of the Kingdom of Italy. Within this broad chronological division, we propose the reading of three street networks where each of them is particularly linked with one of the aforementioned historic periods.
The first case study starts from the beginning of the development of street networks during Ancient Rome. The Appian Way, is selected as a case study for following two reasons. First, the fact that an extensive material from a variety of disciplines exist to test the projects hypothesis and secondly, being amongst the oldest and architecturally most charged Roman consular roads, it provides a fruitful example to start exploring the relation between artefacts and infrastructure, symbols and circulation space. The large-scale infrastructural character of this street, allows us to explore it as a backbone of territorial organization, a container of larger scale movement and explore on one hand, how this past mobility is crystallized today and on the other, how mobility is performing today in relation to what remains from its historic character.
A street gaining importance during the Renaissance period - belonging to the broader chronological division of the Christian Rome, Via Papalis, is our second case study. Here, the street as a contested space is the angle through which we approach this case study.
In the contemporary discourse, our third case study focuses on the Trevi - Pantheon route. In this case the streets are examined as a backdrop of icons and containers of mass movement of tourism flows.

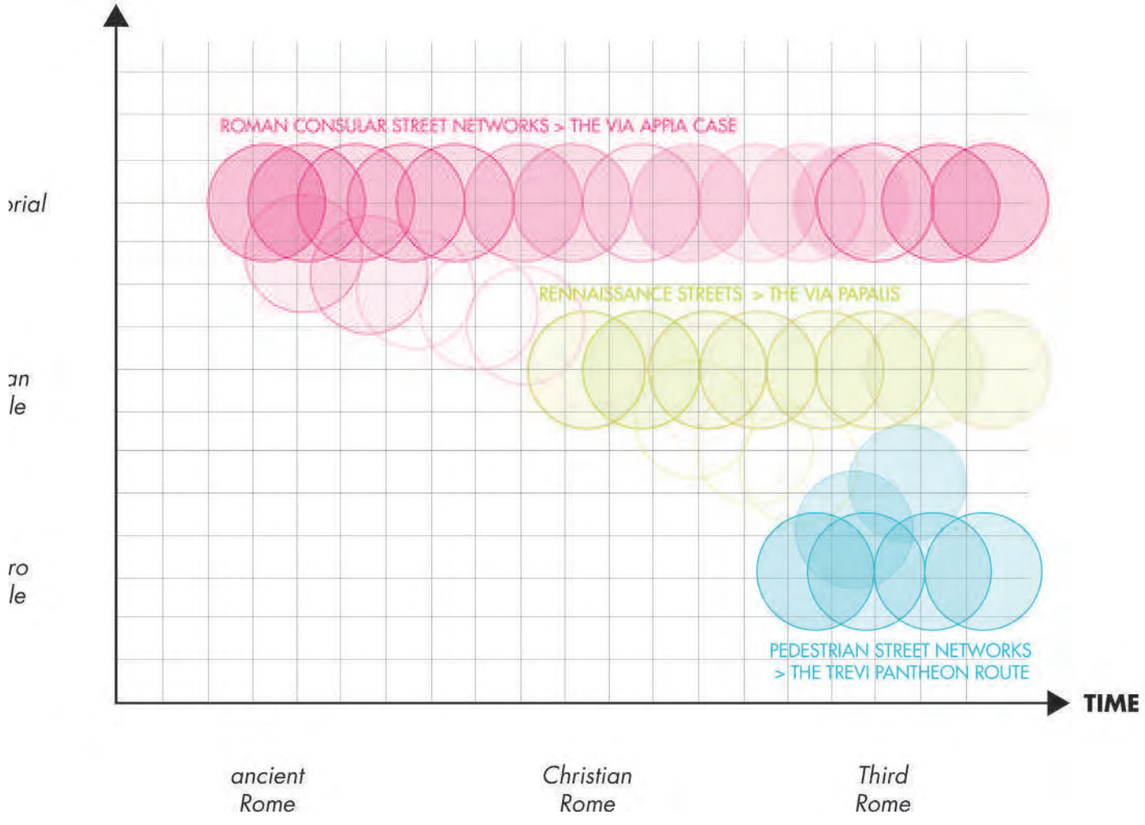


Diagram explaining the case study selection in order of time and scale

Given the different scale and time period, the specific methodology for each case study follows the main methodological framework, yet, is not identical from case to case. In the Trevi-Pantheon case, the quantitative and methodological tools will be more prominent, whereas in the case of the Appian Way, qualitative tools and theoretical references are the basis of this research.

5.2 The question of scale

The question of scale in urban analysis can be amongst the most challenging ones both when conducting a spatial analysis as well as its theoretical definition. As Brenner and Schmid analyzed, there is no singular morphology of the urban; there are, rather, many processes of urban transformation that crystallize across the world at various spatial scales, with wide-ranging, often unpredictable consequences for inherited sociospatial arrangements (Brenner and Schmid 2015). We adopt a multi-scalar analysis; our first case study, Via Appia, focuses on a territorial scale, the Via Papalis on an urban scale and the Trevi – Pantheon route we could consider it at a neighborhood scale.

5.2 The question of time

While the chronological spectrum of this project is broad and starts from the foundation of the first streets in Rome, the aim is to understand these events through the suggested framework with the scope to project upon the future. Thus, adding to the existing knowledge in the field of architectural history and urbanism falls out of the scope of this research.

SUB-QUESTIONS PER CASE STUDY

How is movement happening in the Appian Way as an intangible feature and the Appian Way as a spatial (tangible) feature being perceived today as a cultural artifact?

How did the street as a contested space, the public private division and its representation of power playout in the case of Via Papalis?

What is the relationship between current mass movement flows, cultural spaces and pedestrian street networks?

6.0 Case study 01
ROMAN CONSULAR ROADS. The Appian Way

The consular roads might have started as a political act and means to control the Empire; the meaning and role though, certainly extended beyond that. Their multiple roles can be defined as backbones of an urbanization process happening along the spine of this streets, primary routes to travel across the natural landscape and containers of flows and cultural exchange. Their role was not limited in building the Roman world as a physical environment but constructed a fully-fledged milieu that allowed diversity and at the same time controlled it (Aureli 2010, 18).

6.1 Mobile cultures in Roman italy

Mobility and the structure of transport played a key role to maintaining the consistency between cities and regions in the Roman Empire and the developments in technology played an important role in it.
The developed road system and the increased efficiency of the actual transport animals, alongside a mentalité of spacetime that emphasized the transport of persons and goods over a distance, are features of a culture that has an emphasis on mobility (Laurence 1999, 136). "A Roman soldier first, as the power of his city forced its way south and laid its weight upon the other tribes of the peninsula, who sometimes managed to push back. Then a craftsman, tradesman, or small farmer bringing his goods to one of the towns—Minturnae or Aeclanum or Venusia—that were the links in the civil life of a great empire". (Kaster 2012)
Understanding mobility involves understanding the means of transport as well, which differed according to social status. A simple cart (plaustrum) was rarely being used by the elite, unless there was a crisis in the state (Laurence 1999, 138). The vehicle most commonly used by both the elite was a raeda — a carriage that could also carry personal possessions or bring goods from Rome to a suburban villa (Laurence 1999).

Raeda in mosaic in the baths of Ostia
Source: Pisani Sartorio, G. (1988) Mezzi di trasporto e traffica, Edizioni i Quasar

These vehicles , able to travel as much as 100 miles per day, were accompanied along the road by mutationes to change horses every 12 to 18 km and mansiones to rest overnight every 15 to 30 km; standard features that gave rise to a more or less regular rhythm of urban centers growing along the road using it as their main urban backbone.(MacDonald 1982)
The journey to Rome was one which gradually revealed elements of Roman culture to the visitor or ambassador from southern Italy. (Laurence 1999, 19)

6.2 Via Appia. A multi-scalar spatial system

"We took this lazily in two days, though keener travelers than us take only one: the Appian's easier taken slow." Horace, Satires, 1.5.1

The Appian Way can be considered as a system consisting of three parts; the urban, the suburban and the territorial. While identifying its different parts, the scope of this case study is to focus on the Appian Way as a whole, asking the question of whether and how the Appian Way as an element is a cultural artefact itself and if a common narrative that has crystallized past events and mobility exists today.

The urban part

The suburban part

The territorial part (expands to Brindisi)

The Appian Way was at the same time an urban street and an extraurban road linking the different cities. We can say that the Appian Way represented a street operating in three scales, starting from the center of Rome; the urban, the suburban and the territorial. We could limit its urban part (considering the expansion of the contemporary city) at the point where the Appia Antica meets the New Appian way, built in the 18th century by the Popes which runs parallel to the old road. The suburban part of it, runs at the feet of the volcano edge which ends with the lake Albano; from there, we consider the beginning of the territorial part of the Way, extending for 563 km all the way to Brindisi.

Across the first part of the Appian Way, the Appia Antica, can be considered both, a container of fragments that, without an apparent sequence or logic, are connected amongst them through an inexplicable coherence (Segarra Lagunes 2004, 36) and an artefact per se. Resembling the other consular roads, the Appian Way in the first kilometres starting from the core of the city, was a necropolis of sorts, a memorial avenue lined with tombs and cenotaphs and estates of prominent families. In "Learning from Las Vegas", Rome is being compared to Las Vegas. Was the first part of the Appian Way, expressed through the famous drawing of Piranesi, a scenic backdrop composed of a set of artifacts on a similar note that the Las Vegas strip is depicted?

G. B. Piranesi,Intersection of the Appian Way and the Via Ardeatina.

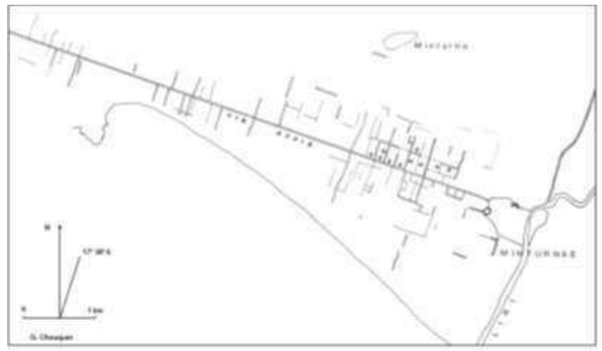
Tlie Las Vegas Strip in Venturi, Scott Brown,Izenour's Learning From Las Vegas.

While on the urban – suburban part of the Appian Way, the Appian Way is characterized by a succession of architectural objects, on a territorial scale, the Appian Way worked as an organized system, where one single main architectural artifact - the paved, three-dimensional volume of the street - linked together and defined territories and landscapes. And although military in its origin, the Appian Way became a large-scale spatial device to control and order the territory, the landscape and that of the actual experience of travelling on the road (Giudici 2014).

Via Appia Nuova in the Roman Campagna, 1930,
Antonio Caderna Archives

6.3 The street as a backbone of urban development. Mobility as an engine of activities and the emergence of new urban settlements across the Appian Way

The building of the road was associated with the establishment of settlements on the road itself, performing as a backbone for urban development. The Appian Way, performing as a "highway", was the core street along which urbanization of these settlements would occur. While in a suburban condition this happened through monumental tombs marking an extreme symbolism, within towns standardized elements such as stone walkways and porticoes provided the necessary blank facade that Roman ethics and religion asked in order to achieve a clear urban scene (Livi, n.d).
Examples of settlements developed along the Appian Way include a town established by Appius, known as Forum Appii (Laurence 1999, 16), Minturnae and Benevento. In these settlements, where the urban core was bisected by the major arterial roads used for long distance travel the display of the city to travelers was at its most explicit (Laurence 1999, 151)
Minturnae was a roman colonia maritima, founded in 296/295. No village existed though on the site of Minturnae before the extension of the Appian Way; that strengthens the idea that the settlement was founded to fit in the rhythm of regular stations along the Appian Way (Giudici 2014, 79). It held a strategic position, where the via Appia crossed from Latium to Campania, and a port on the navigable river Garigliano or Liri (the ancient Liris), two km from the coast. Rome's armies and other travelers regularly transited Minturnae, on the main route to southern Italy and Greece. (Stannard, Ferrante, and Sinner 2019).



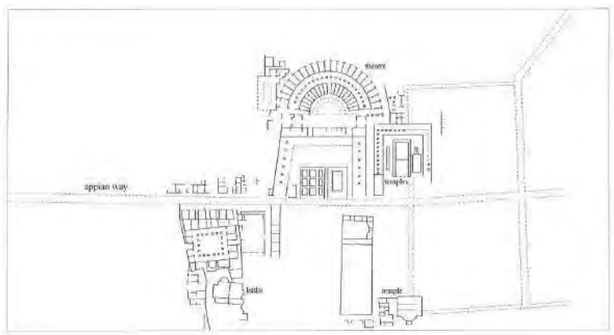
Via Appia through the town of Minturnae
source: Ray Laurence, The roads of Roman Italy

6.4 Methodological approach on the case study

As mentioned on the case study chapter, each of the case studies, due to the different characteristics of scale and time, adopt different methodological tools yet part of the broader research design.
The methodological framework will develop following analysis:

- A theoretical exploration of the Appian Way in its urban, suburban and territorial character, understanding how mobility and urbanization during the Roman Empire are crystallized (see 7.2, 7.3)
- A configurational analysis of the street network. This includes performing a global integration analysis of the Roman consular road network as well as understanding today´s urbanization processes in relation to the past networks (current integration). (see 7.5)
- A qualitative mapping process of the elements that u5veil a common narrative of the space of the street (see 7.6)

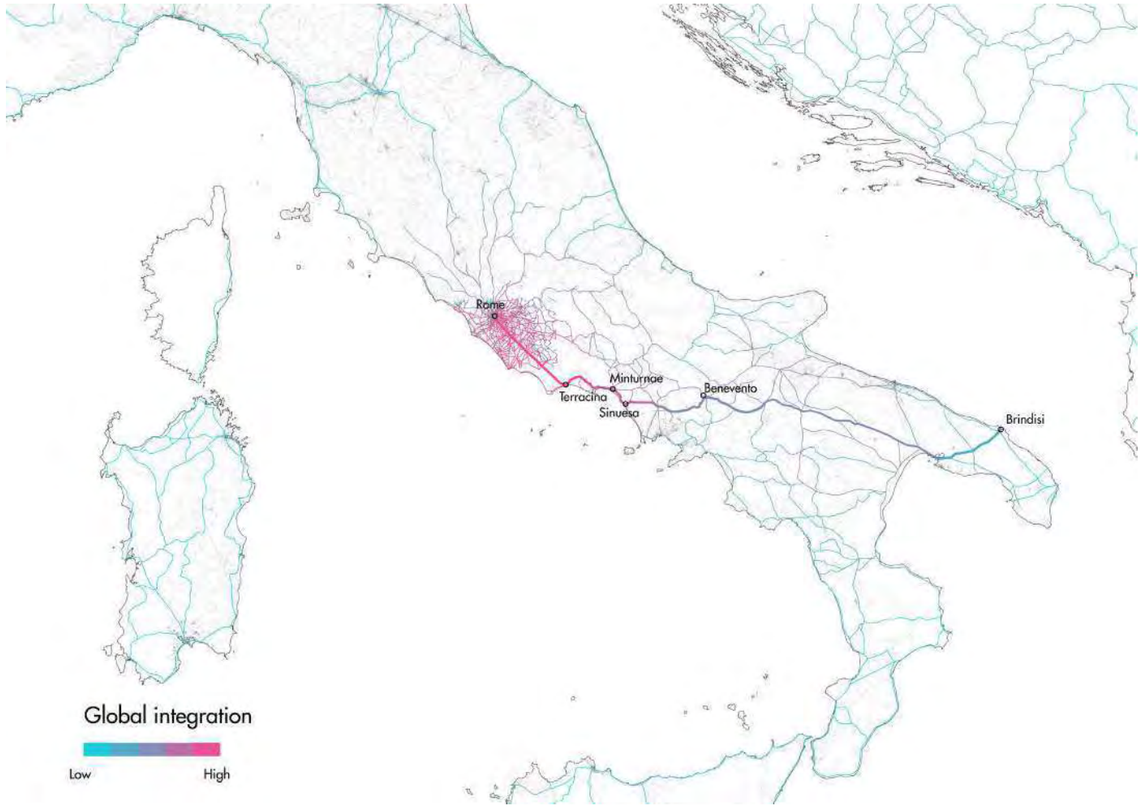
Through this case study, we ask the question whether the creation and reproduction of cultural memory through movement can illuminate the enduring influence of ancient street networks on the modern cityscape. Does a possibility for a common project of the Appian Way exist?



Plan of Via Appia through the town of Minturnae
source: Yegül, F., & Favro, D. (2019).
Architecture and Planning in Italy and the Western Provinces: From the Republic to the Empire

6.4.1 Methodological examples on configurational analysis

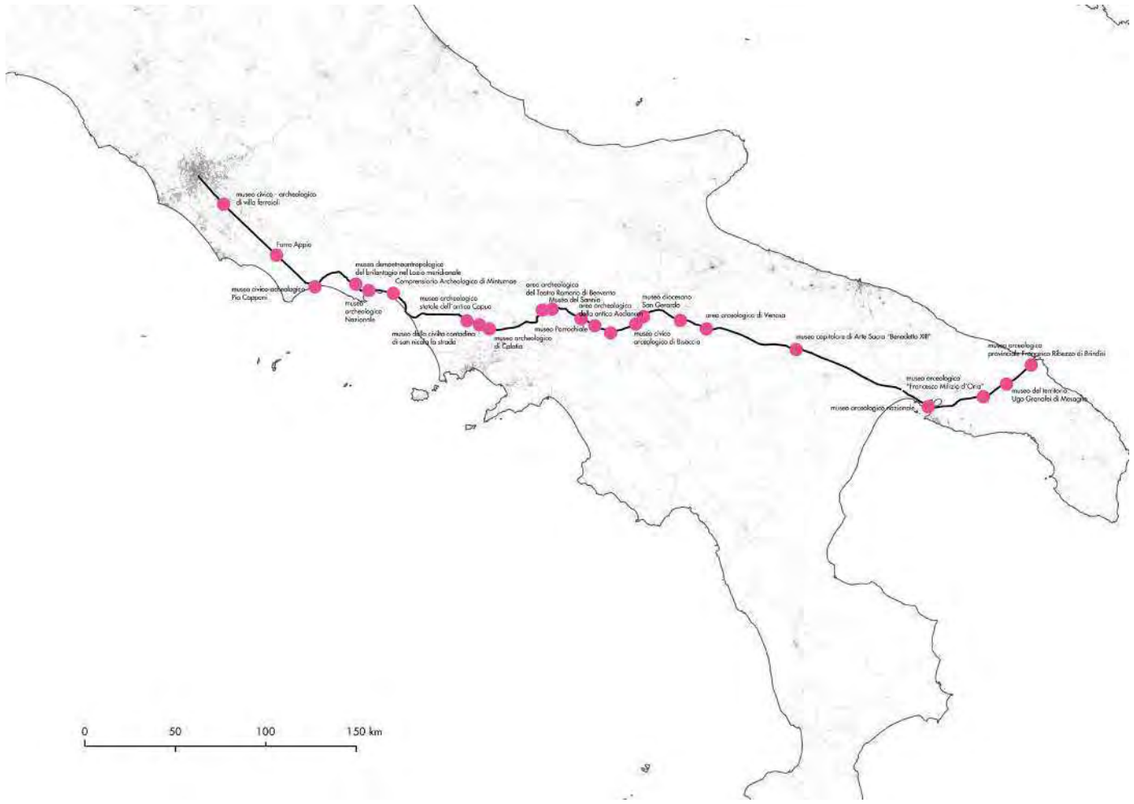
Applications of space syntax global integration analysis to analyze the integration of Roman road system



Roman roads global integration map
source: author, initial dataset from: The Digital Atlas of Roman and Medieval Civilizations, Harvard University

6.4.2 Methodological examples on qualitative mapping

Mueums along the Appian Way; further analysis on the type of cultural spaces will analyze whether these refer to a shared narrative of the Appian Way



Museum spaces along the Appian Way
source: author

6.5 Analysis on the policies and design interventions to highlight the Appian Way as a cultural element

6.6 Conclusions. The possibility for a common project?

7.0 Case Study 02. VIA PAPALIS

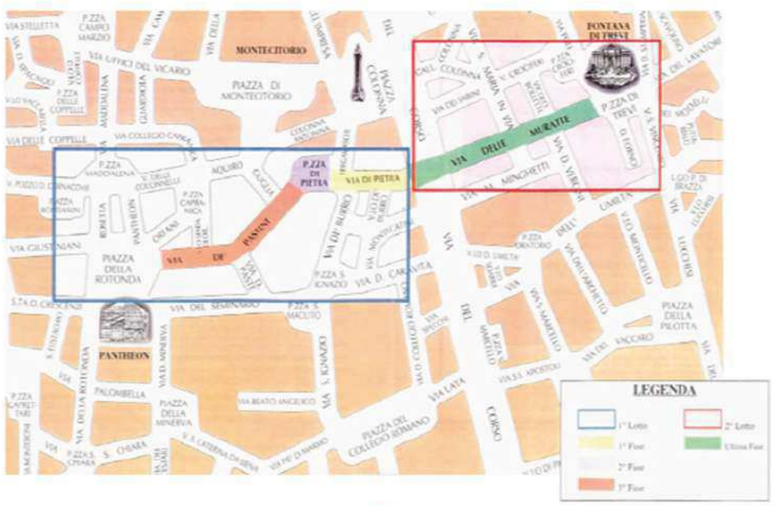
The present case study will be developed on a later stage of this research.

8.0 Case Study 03. THE PANTHEON TREVI ROUTE. Street mobility in an era of increased mobility

The third case study focuses on one of the most visited tourists' itineraries in the city of Rome, and probably amongst European cities, the Trevi-Pantheon route and investigates the relationship between movement and memory, and in particular how the integration of spaces or cultural sites into the city's wider movement patterns affects their role as a place of memory.

8.1 Policies & urban interventions since 1990

The city of Rome (Town Council Resolution no. 9442) on December 1990, launched a competition for the re-qualification of the historic center (Porfyriou 2010, 335). The competition call was focusing on the development of two major road axes in the commercial part of the historic center; the Trevi – Pantheon itinerary and the Via Condotti – Via Fontanella Borghese itinerary. Article 1 of the competition announcement specified as main competition goal to achieve "The best possible solution for the use and image of public spaces in the historic center". The competition ended with the announcements of the winners by the Jugding Comission on May1994 and approved by the Town Council resolution on August of the same year.



Plan of the Trevi-Pantheon itinerary indicationg the phases of realization of the protected pedestrian itinerary for disabled persons
Source: Porfyriou, 2010

Connecting Trevi to Pantheon with a pedestrian street (initially specially designed for the visually impaired) implied creating a privileged itinerary especially attractive to tourist groups and flows, who immediately adopted it as the only real direct connection between these two monumental urban spots of the city. (Porfyriou 2010, 341).

8.2 Methodology applied in the case study.

In this case study we will focus on the contemporary realm and the mobility flows happening between pedestrians along the three different itineraries to reach from Trevi to Pantheon. Since the study is placed on the contemporary scene, we are able to test and put in place tools applied in a variety of recent urban study models. Compare three routes. Comparing the main route with the adjacent ones.

The methodological tools thus inculde a mixed methodology consisting of following steps:

- Macro-spatial configurational analysis tools (eg. Space syntax)

- Static snapshots

- Micro-spatial analysis tools (Van Ness). street openings

- Morphological analysis of the street networks

- Socio-economic data analysis

In this study we aim to understand which factors have the largest impact on affecting visitors routes.

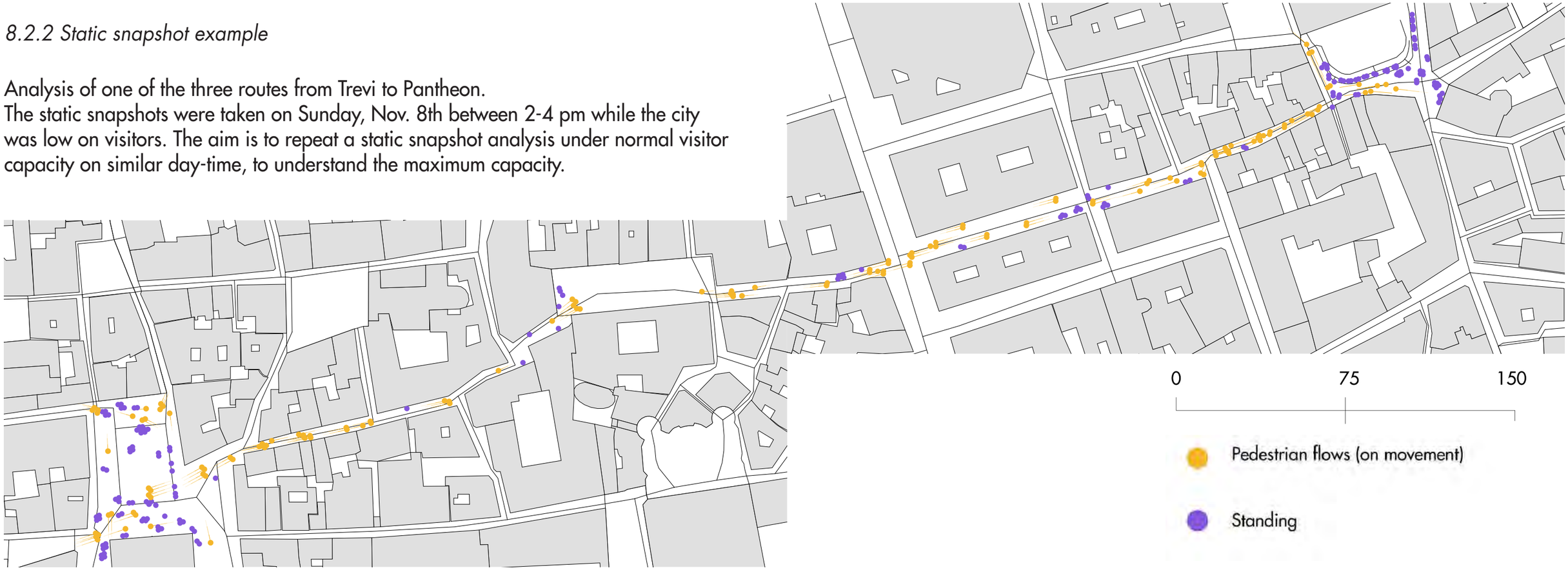
8.2.1 Configurational analysis example

Topological Segment Map Analysis
center Trevi-Pantheon route

Topological Segment Map Analysis
Source: author

8.2.2 Static snapshot example

Analysis of one of the three routes from Trevi to Pantheon.
The static snapshots were taken on Sunday, Nov. 8th between 2-4 pm while the city was low on visitors. The aim is to repeat a static snapshot analysis under normal visitor capacity on similar day-time, to understand the maximum capacity.



9.0 BIBLIOGRAPHY & REFERENCES

Amoroso, Nadia. 2010. The Exposed City: Mapping the Urban Invisibles. 1. ed. London: Routledge.

Appleyard, Donald, Kevin Lynch, and John Myer. 1964. "The View from The Road." Cambridge, The MIT Press.

Archibugi, Franco. 2004. Rome: A New Planning Strategy. Routledge.

Aureli, Pier Vittorio. 2010. Rome: The Centre(s) Elsewhere a Berlage Institute Project. Torino: Skira.

Batty, Michael. 2001. "Agent-Based Pedestrian Modeling." Environment and Planning B: Planning and Design 28 (3): 321–26. https://doi.org/10.1068/b2803ed.
———. 2017. The New Science of Cities. Reprint edition. Cambridge, Massachusetts London, England: The MIT Press.

Bjur, Hans, and Santillo Barbro Frizell. 2009. "Via Tiburtina: Space, Movement and Artefacts in the Urban Landscape." Landscape Research 37 (1). https://doi.org/10.1080/01426397.2012.658673.

Brenner, Neil, and Christian Schmid. 2015. "Towards a New Epistemology of the Urban?" City 19 (2–3): 151–82. https://doi.org/10.1080/13604813.2015.1014712.

Copolla, Alessandro, and Gabriella Punziano. 2018. Roma In Trasizione. Governo, Strategie, Metabolismi e Quadri Di Una Metropoli. Planum publisher.

Corner, James. 2011. "The Agency of Mapping: Speculation, Critique and Invention." In The Map Reader, edited by Martin Dodge, Rob Kitchin, and Chris Perkins, 89–101. Chichester, UK: John Wiley & Sons, Ltd. https://doi.org/10.1002/9780470979587.ch12.

Cullen, Gordon. 1995. The Concise Townscape. Architectural Press.

Delpirou, Aurelien. 2012. "Métropolitiques," 4.

Ganiatsas, Vasilis. 2010. "Heritage as Ethical Paradigms of Identity and Change: In Need of New Conceptual Tools, Practices or Attitude?" In .

Gehl, Jan. 2001. Life between Buildings: Using Public Space. 4th ed.. Copenhagen: Arkitektens Forlag.

Gemmiti. 2019. "Neoliberal Rome - The Role of Tourism." Social Sciences 8 (6): 196. https://doi.org/10.3390/socsci8060196.

Giudici, Maria. 2014. "The Street as a Project. The Space of the City and the Construction Ofthe Modern Subject."

Graham, Stephen. n.d. "© STEPHEN GRAHAM and SIMON MARVIN," 59.

Griffiths, Sam. 2012. "THE USE OF SPACE SYNTAX IN HISTORICAL RESEARCH: Current Practice and Future Possibilities." Eighth International Space Syntax Symposium.

Griffiths, Sam, and Alexander von Lünen, eds. 2016. Spatial Cultures: Towards a New Social Morphology of Cities Past and Present. London; New York: Routledge, Taylor & Francis Group.

Hillier, Bill, and Julienne Hanson. 1986. "The Social Logic of Space." Cambridge University Press, 11.
Hillier, Bill, and Laura Vaughan. 2007. "The City as One Thing." Prog Plan 67(3):205–230.

Insolera, Italo. 1962. Roma moderna: un secolo di storia urbanistica. Piccola biblioteca Einaudi 0025. Torino: Einaudi.

Jacobs, Allan B. 1995. Great Streets. Cambridge, Mass. London: The MIT Press.

Jacobs, Jane. 1961. The Death and Life of Great American Cities. New York: Random House.

Kaster, Robert. 2012. The Appian Way: Ghost Road, Queen of Roads (Culture Trails: Adventures in Travel). The University of Chicago Press.

Laurence, Ray. 1999. The Roads of Roman Italy: Mobility and Cultural Change. London ; New York: Routledge.

MacDonald, William L. 1982. The Architecture of the Roman Empire. Yale Publications in the History of Art 0017. New Haven London: Yale University Press.

Marc, Angelil, and Anna Klingmann. 1999. Hybrid Morphologies. Infrastructure, Architecture, Landscape. Daidalos.

Marcelloni, Maurizio. 2003. Pensare la città contemporanea: il nuovo piano regolatore di Roma. Grandi opere. Roma: Laterza.

Montanari, A. 1976. Roma Sbagliata, Le Conseguenze Sul Centro Storico. Rome, Italy: Bulzoni.

Nes, Akkelies van, and Manuel J J López. 2010. "Macro and Micro Scale Spatial Variables and the Distribution of Residential Burglaries and Theft from Cars" 1 (2): 20.

Obad Š itaroc, Mladen, Bojana Bojani Obad Š itaroci, and Ana Mr a. 2019. Cultural Urban Heritage_ Development, Learning and Landscape Strategies-Springer International Publishing (2019.Pdf. Springer International Publishing.

Palazzo, Anna Laura, and L. Giecillo. 2009. Territori Del'urbano. Quotlibet Studio.

Porfyriou, Heleni. 2010. "Urban Policies and Monitoring Tourist Impact: The Case Study of Trevi-Pantheon Itinerary in Rome," 22.

Portugali, Juval. 2011. Complexity, Cognition and the City. Understanding Complex Systems. Berlin, Heidelberg: Springer Berlin Heidelberg. https://doi.org/10.1007/978-3-642-19451-1.

Quilici, Vieri. 2007. Roma Capitale Senza Centro. Officina Edizioni.

Rittel, Horst W. J., and Melvin M. Webber. 1973. "Dilemmas in a General Theory of Planning." Policy Sciences 4 (2): 155–69.

Rowe, C, and F. Koetter. 1983. Collage City. Cambridge, Mass: MIT Press.

Russell, Amy. 2014. "Memory and Movement in the Roman Fora from Antiquity to Metro C."

Journal of the Society of Architectural Historians 73 (4): 478–506. https://doi.org/10.1525/

jsah.2014.73.4.478.

Segarra Lagunes, María Margarita. 2017. Via Appia: i disegni degli architetti. Milano: Electa.

Stannard, Ferrante, and Sinner. 2019. “Trade between Minturnae and Hispania in the Late Republic.”

Taylor, Rabun M., Katherine Rinne, and Spiro Kostof. 2017. Rome: An Urban History from Antiquity to the Present. New York, NY: Cambridge University Press.

LITERATURE REVIEW, Roma Tre (SEPTEMBER 2020)

Università degli Studi Roma Tre | Department of Architecture
Phd Program. Landscapes of the Contemporary City - Policies, Techniques and Visual Studies
Literature Review | Sophia Arbara

Mobility and heritage, mobility as heritage in the urban streetscape. The case of Rome

RESEARCH AIM & SCOPE

The current paper is part of the preparatory Phd Thesis aims to investigate the link between accessibility, cultural valorization of spaces and the crystallization of memory in urban space and in particular, the space of the street.
The conceptual and methodological literature will serve to frame our approach and set the framework to our case study (the Roman context and the analysis of three streetscapes).

The aim of this research is to:

Provide a deeper understanding of how cultural heritage has been valorized in regards to its position in space and in particular the link between urban movement, mobility and heritage valorization. Can movement across one streetscape become heritage and the opposite; how does culture-led movement affect the urban space of the street?

Understand through the case studies, whether design interventions have managed to crystallize this past movement and/or enhance present accessibility and circulation

By engaging with the methodological tools that will bridge the two cultures of cities (Technoscientific - Arts & Humanities) to provide methodological guidelines to consider how certain design and planning decisions can valorize urban space as heritage. How can urban design and planning tools better integrate strategies to consider the space of the street (and more general urban space) as heritage?

INTRODUCTION

Along with contemporary urban theories and tools which put on the epicenter the interrelation between social life and physical space as networks (Batty, 2017; Hillier and Hanson, 1984), movement and static constructs, institutions working towards culturally sustainable urban environments have adopted new conceptual frameworks and tools to successfully manage historic sites as part of an integrated urban system (UNESCO Historic Urban Landscape, 2011; UN Sustainable development goals).
Through the landscape it was acknowledged that the territory, far from being a static entity, is a diachronic construction resulting from the constant interaction of natural and human factors over time.
This emerging direction in considering heritage as part of urban space opens up new potentialities and the need to combine and develop multidisciplinary tools in order to both reinterpret the past and better envision the future. By dealing with heritage as an integrative part of the urban landscape, this research focuses on one important element of urban space; the street and through an analysis of it, it attempts to reveal its hidden properties in relation to culture: mobility and movement.

Cultural heritage and mobility are strongly related in two aspects; cultural spaces have long been generators of culture-led movement in urban areas and the opposite; movement on a larger scale and across time, if crystallized, becomes part of the urban heritage.

The operational ground to conduct this project is the most important container of mobility and heritage sites; urban spaces and in particular, the streetscape.

The space of the street, considered space of the public realm, is not a mere functional element, it can generate conflict, connection and play a significant role in tying the image and identity of the city, affect what will become the future heritage and play an important role in how the city's image is being perceived today.

The urban space of Rome, an urban palimpsest with a rich anatomy, is being chosen as the most appropriate ground to conduct this study. There is probably no other city that was used by representational regimes as a testing ground enduring a large number of radical shifts (Aureli, 2010). During its different historical periods, the street as a public space and container of movement has become the spine through which importance is being given to what will be preserved in the future.

Within Rome´s broad chronological division, we propose the reading of three main episodes and streetscapes. These episodes do not form a historical interpretation of Rome but aim to interpret the past with the aim of better reflecting for the future and focus on contemporary urban interventions and how these have addressed mobility and heritage in the urban realm.

LITERATURE DIVIDED BY CHAPTERS

Heritage Related Literature as part of the Urban Landscape (conceptual tools)

One important aspect of this thesis engages with the contemporary approaches to consider heritage as part of a holistic system of urban space. Amongst the most important concepts dealing with this idea is certainly the Historic Urban Landscape Approach by UNESCO that considers urban spaces as “dynamic organisms” and sees and interprets the city as a continuum in time and space (UNESCO Historic Urban Landscape, 2011). In this recommendation, as part of the urban heritage are considered not only monuments but the built environment as a whole. Through the landscape it was acknowledged that the territory, far from being a static entity, is a diachronic construction resulting from the constant interaction of natural and human factors over time (Sanchez et al., 2020)

On a broader policy level, cultural sustainability is also included in the recent recommendation on the UN Sustainable goals; culture and creativity are considered as core concepts that contribute to each of its pillars transversally (UN Sustainable Goals, 2017).
Although this project falls only partially within the scope of Cultural Routes, the guidelines provided by ICOMOS that offer an innovative, complex and multidimensional approach introducing a new ethics of heritage is taken into consideration when linking the street to heritage (ICOMOS, 2008)
The aforementioned concepts can be linked with urban landscape approaches by the concept of the palimpsest which has recurrently been used to explain the layered construct of architectural monuments and urban morphologies and supposes that a new urban layer is superimposed on the previous one (Vâlceanu et al, 2014). For the scope of this thesis it becomes an important conceptual tool to read the past and “project” upon the future.

While these recommendations offer important guidelines and open up the discourse in perceiving heritage as part of a dynamic urban landscape, we identify a gap of these guidelines to align with the technological tools and methods currently in use by disciplines of urbanism and planning. Thus, part of this thesis aims to explore and contribute to the methodological tools currently in use in order to analyze, measure and propose planning and design solutions for the urban environment and apply these to explore the link between mobility and cultural valorisation of the streetscape. This project will not conduct a thorough exploration of these tools but rather analyze them in order to define a mixed methodology able to incorporate heritage and accessibility in the urban design and planning discourse.

Before touching upon the authors that focus on the methodological ways to study urban systems, we have to frame and understand the nature of the problem. Rittel & Weber have put these on a basis of defining them as “wicked” problems, given, amongst others, the fact that these cannot be applied as ready-made recipes in different contexts and that there is not one single solution but instead multiple solutions (Rittel & Weber, 1973)

Methodological approaches in urban design and planning (methodological tools)

In terms of the methodological approach, this research engages with literature deriving from urban design and planning methodologies. More specifically, we focus on approaches that aim to respond to the “Wicked” nature of these problems that read cities as complex organisms where material, immaterial flows and networks are intertwined. Portugali in “Complexity, cognition and the City” highlights the importance of pairing complexity theory, cognition and the study of cities to bridge the two cultures of cities - the culture of the sciences and the scientists and the culture of the arts and humanities (Portugali, 2011). Batty, goes beyond a historical analysis of complexity and cities and adds an approach driven by a focus on the spatial structure. In its book, “The New Science of Cities”, he argues that "... cities must now be looked at as constellations of interactions, communications, flows, and networks, rather than as -locations..." (p. 13) and addresses urban structures such as space syntax and network morphology with research examples in Chapters 6 and 7 which become important precedents for the methodological approach of this thesis (Batty, 2017). This adds to the already established literature of Hillier and Hanson, who, starting from the premise that there is a dynamic interaction between space and social relations, they assess how the configuration of space affects human cognition, summarizing the empirical experience of “inter-visibility” in a mathematical formula (Hillier & Hansen, 1984).
Adopting both the theoretical drivers as methodological guidelines and the computational tools available to conduct such a research is what this research aims for. The methodological question, thus, that this project poses is: which methodological tools allow us to better integrate heritage and accessibility to the urban planning & design processes?

Urban theory and the street as a container of movement and artefacts (the spatial element)

The spatial component where the conceptual questions take concentrate on one important element of the public realm, circulation space. As aptly stated in “The street as a project”, “the confusion between the juridical, infrastructural, and representational aspects of circulation space has made of the street a slippery subject to discuss” (Giudici, 2014). The literature about the street is rich yet fragmented. From an architectural and urban point of view, to analyze these elements means to both study the void (“the space between buildings”) as well as the built form.

What this project aims to look at more closely at is how the street (in our case the three chosen case studies) becomes a space that crystalizes past movement, which (if any) design decisions have embraced this past movement, how current accessibility favors this valorisation and what are the tools to analyze and design in the future incorporating heritage and mobility in the urban realm.

A complete historical review of the urban and architectural discourse on streets falls beyond the scope of this project. However, a literature review on the main directions that have shaped the theory and design of the space “between buildings” is crucial before narrowing down to the street in relation to movement and heritage.

The street as a container of landmarks and artifacts

"The view from the Road" is probably amongst the fundamental writings in the architectural discipline that conducted a thorough investigation of the street with the same detail as if it was an architectural element (Appleyard, Lynch, Myer, 1964). This work later on influenced the writing of "Learning from Las Vegas" by Robert Venturi, Denise Scott Brown, and Steven Izenour's Yale book which uses strong representational mapping techniques to analyze the stripe of Las Vegas, through symbolism, icons, drawing parallels to Rome in the '40s. The street as container of landmarks - heritage sites, as an intertwined element with its artifacts that creates an "imageability" of the urban space has been the element of study in Kevin Lynch's "Image of the city" with the environmental image having its original function in permitting purposeful mobility. A sub-question that emerges by the aforementioned literature is whether a street itself can be considered an artifact, or it is the elements (architectural objects) that make its cultural importance.

The street as infrastructure and networks
An important category of scholars emerging particularly over the past decades are the ones critically engaging with the street as networked infrastructures and flows. Graham and Marvin make an important point by addressing how the contemporary city focuses on "networked spaces" yet at the same time urban spaces are characterized by an increased fragmented condition (Graham, Marvin, 2001). On a similar note notable architects and urbanists like Koolhaas, Easterling and Martin Pawley insist, in short, that in the contemporary city, more than ever, "infrastructure, architecture, and landscape amalgamate to become one complex" (Angélil and Klingmann, 1999). Amongst the theorists opening up the discourse on infrastructural space is Stan Allen, who, from the standpoint of an architect, gave a renewed perspective on infrastructures and their potential to shape both local and site specific (bottom - up) as well as territorial (and top - down) dynamics (Allen,1999).

The street as a power apparatus
The space of circulation as a space where social inequality, the state apparatus and surveillance mechanisms reveal their power. Under this category, this discussion was first put on the forefront regarding the city by Levebvre's "Right to city" and later followed by Soja´s writings about spatial justice where he attempts to link this concept to infrastructure through the example of uneven distribution of resources of the Los Angeles Transportation Authority (Soja, 2010).

Literature on the Roman context and the case studies

The operational ground to conduct this research is the Roman urban space, focusing on three streetscapes which engage with different historical periods. To facilitate the reading, we have divided the scholars touching upon the main components of these thesis can be categorized according to the general concept of urban development (including the historic development of the city) and each case study in separate.

On the Roman urban development with a focus on streetscape and heritage, the book "Rome: the center(s) elsewhere" provides an important reading of the Roman streets, adopting a narrative of a meta-framework of the street to study the reciprocal relationship between urban space, history and power (Aureli, 2010). Insolera provides one of the most thorough descriptions of Rome's urban planning history, which turns into an important basis to understand the complexity of our site (Insolera, 1962). In order to better understand the past decades of urban planning and design, the regeneration projects, the emerging centralities and the plans to ameliorate the mobility of the city, Marcelloni's gives an overview of both the problematics and strategies to "modernize" Rome and to manage the contemporary city (Marcelloni, 2003). In terms of mobility, movement and public transport, Tocci, Insolera and Morandi, engage critically both with the development of the public transport system in Rome and with the terminology of it, arguing that the term accessibility should be preferred over the term mobility, as accessibility implies a multiplicity of instruments; it does not belong to anyone, but needs everyone.

The case studies

In the first case, the Appian Way, the element of the street, its heritage and movement are part of a larger scale territorial device that goes beyond the urban scale and allows us to examine the crystallization of past movement and its artefacts today. The urban interventions taking place in recent history will be critically analyzed as of how these incorporated the heritage of the street as an artefact and by applying the methodological tools, we will perform an analysis

The second case study, via Papalis in the early cinquecento, puts more weight on the street as a power apparatus. It focuses on the power relations and links to the notion of the street as a contested space between Roman families and curials. The arrival en masse of curials after the papal state moved to Rome manifested on the ground, in the streets and was articulated through the language of architecture, both permanent and ephemeral (Cafa, 2010).

The third case study is yet to be defined but aims to look at the street over the past decades, focusing on the "imageability" of the streets artefacts in the era of mass tourism and digital media.

In all case studies, the aim is to conduct a bibliographical analysis and implement the methodological tools to conduct a research study that will serve as a framework for planning & design decisions.

Bibliography per sector

Heritage & Culture

International Council on monuments and sites. "The ICOMOS Charter on Cultural Routes," 2008.

Sánchez, Marina López, Antonio Cabrera Tejedor, and Mercedes Linares Gómez Del Pulgar. "Guidelines from the Heritage Field for the Integration of Landscape and Heritage Planning: A Systematic Literature Review," no. Landscape and Urban Planning (2020)

UNESCO Recommendation on Historic Urban Landscapes, 2011

UN Sustainable Goals, 2017

Vâlceanu, Daniel-Gabriel, Robert-Alexandru Kosa, and Diana-Georgiana T mîrjan. "URBAN LANDSCAPE AS PALIMPSEST." R. A. 5, 2014 : 11.

.

Cities & Complexity, Planning Theory & Methodology

Azimzadeh, Mir. "Evolving Urban Culture in Transforming Cities," Phd Thesis, Department of Urban Design and Planning, CHALMERS UNIVERSITY OF TECHNOLOGY, Göteborg, Sweden 2003

Batty, Michael. The New Science of Cities. Reprint Edition. Cambridge, Massachusetts London, England: The MIT Press, 2017.

Hillier, Bill, Hanson Julienne, The Social Logic of Space,1984

Portugali Juval, Complexity, Cognition and the City, Springer.September 20, 2020

Rittel, Horst W. J., and Melvin M. Webber. “Dilemmas in a General Theory of Planning.” Policy Sciences 4, no. 2,1973 : 155–69.

Urban space and the street

Allen, Stan. Points and Lines: Diagrams and Projects for the City. 1 edition. New York: Princeton Architectural Press, 1999.

Angelil, Marc and Klingmann Anna. Hybrid Morphologies. Infrastructure, Architecture, Landscape. Daidalos, 1999.

Appleyard, Donald, Kevin Lynch, and John Myer. “The View from The Road.” Cambridge, The MIT Press, 1964.

Confronti 2-3. Infrastrutture urbane e città storica. Ediz. multilingue, 2013

Foucault, Michel. "Territory, Security, Population: Lectures at the Collège De France 1977–1978." Trans. G. Burchell, 2007

Giudici Maria Sheherazade, The street as a project. The space of the city and the construction of the modern subject, Phd Thesis, Berlage Institute, 2014

Graham, Stephen, and Simon Marvin. Splintering urbanism: networked infrastructures, technological mobilities and the urban condition. Psychology Press, 2001

Lynch, Kevin. The Image of the City. Nachdr. Publication of the Joint Center for Urban Studies. Cambridge, Mass.: MIT PRESS, 2005.

Soja, Edward. Seeking Spatial Justice. University of Minessota Press, 2010.

Venturi, Robert, Denise Scott Brown, and Steven Izenour. Learning from Las Vegas. Cambridge, Mass: Mit Press, 1967.

Literature on the Roman context

Aureli, Pier Vittorio. Rome: The Centre(s) Elsewhere a Berlage Institute Project. Torino: Skira, 2010.

Casaburi Tiziana, Archeologia e Metropolitana, Roma Tre, Facoltà di Architettura, Restauro 2011

Fairclough, Graham. “Via Tiburtina: Space, Movement and Artefacts in the Urban Landscape.” Landscape Research 2012

Insolera, Italo. Roma moderna: un secolo di storia urbanistica. Piccola biblioteca Einaudi 0025. Torino: Einaudi, 1962.

Marcelloni, Maurizio. Pensare la città contemporanea: il nuovo piano regolatore di Roma. Grandi opere. Roma: Laterza, 2003.

MacDonald, William L. The Architecture of the Roman Empire. Yale Publications in the History of Art 0017. New Haven London: Yale University Press, 1982.

Tocci, Walter. Avanti c’è posto: storie e progetti del trasporto pubblico a Roma. Saggi <Donzelli> Natura e artefatto. Roma: Donzelli, 2008.

Literature on the three case studies

Canina, Luigi. La prima parte della Via Appia descritta e dimostrata con i documenti superstiti. Rome: Bertinelli, 1853

Cafà, Valeria. “The via Papalis in Early Cinquecento Rome: A Contested Space between Roman Families and Curials.” Urban History 37, no. 3 (December 2010): 434–51

Della Portella, Ivana, ed. The Appian Way: from its Foundation to the Middle Ages. Los Angeles: Getty Publications, 2004

Frommel, L’urbanistica della Roma rinascimentale in De Seta, Cesare (Hrsg.): Le città capitali, Roma S. 95-110 ; S. 261-262, 1985

Kaster, Robert A. The Appian Way: Ghost Road, Queen of Roads. Chicago: The University of Chicago Press, 2012.

HERILAND BLOG ARTICLE (APRIL 2020)

Adaptability in times of crises
How mobility infrastructure turns into moving healthcare facilities

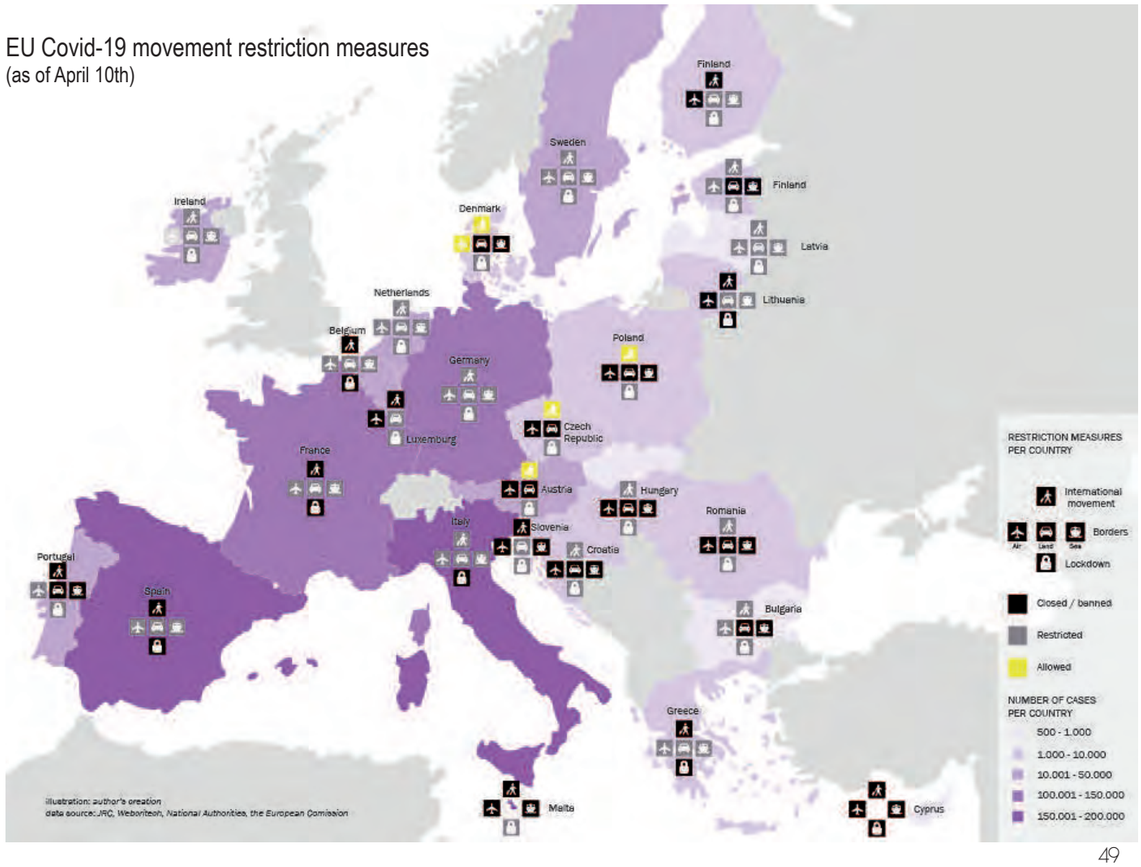
Embedded in the idea of the EU itself, is the free movement of its population across national and regional borders which implies the use of large infrastructural networks.
In times of Covid-19 with human flows being almost completely immobilized, mobility infrastructure dedicated to passenger movement has lost its initial purpose. Yet, amid a pandemic, cities have found ways to adapt its infrastructural typologies to respond to the ongoing public health crisis.

One of the fundamental rights guaranteed by the EU to its citizens is the free movement of persons. Enhanced by the border-free Schengen agreement, more than 400 million EU citizens and non-EU legally present nationals, are able to move across its territories without restrictions.(1) Following the establishment of cross-border territories, a series of transformations in the EU's urban, architectural and physical landscapes took place and so did the way its citizens relate to space and place.

The creation of transnational free movement zones has been driving interdisciplinary attention, with scholars from contemporary philosophy to urbanism considering Europe as the operational site to move from a sedentary relationship to space towards a nomadic one. (2) A territory where our primary relationship to space, instead of being rooted in a land ownership model and boundaries, is rather primarily shaped around the notion of movement and flows.(3)

This shift towards a spatial relationship where movement is in the epicenter and hyperconnectivity is the rule, is showing its effects in the way the ongoing Covid-19 pandemic is remapping our territories. Resembling a digital virus, Covid-19 has expanded across countries and continents within no time(4). And along with putting our healthcare systems under a stress test, weakening our economies, altering our live - work habits and the way we inhabit our cities, it impeded overnight our ability to move, immobilizing air infrastructure, shutting down national borders and interrupting passenger movement.
With our physical, bound to motion existence having almost completely shifted to a digital one, the EU zone's basic principle of free movement seems a distant concept. And with our physical limits being restricted within the walls of our living unit, mobility infrastructure dedicated to human flows is incapable of serving its initial purpose.

EU Covid-19 movement restriction measures
(as of April 10th)



Yet, while motion has been amongst the main reasons to the pandemic´s rapid spread, it is at the same time a key element to its response. And while trains and mobility hubs, airplanes and airports, boats and ports - considered amongst the spaces with the highest spread rate - had to limit or even shut down their services, cities demonstrated an increased capacity to adapt this infrastructure in order to respond to the ongoing healthcare crisis.

Wagons converted into intensive care units in France

source:
Thomas Samson, Pool via AP,The Associated Press
https://abcnews.go.com/Health/wireStory/france-turns-speedy-trains-catch-virus-response-69982731

A floating hospital arriving in New York city

source:
MIKE SEGAR (REUTERS)
https://elpais.com/sociedad/2020-03-30/un-barco-hospital-con-mil-camas-y-12-quirofanos-llega-a-nueva-york.html

Rail infrastructure in France - Wagons turning into intensive care units

On March 26, in Paris, the first “medicalized” train, a five-car TGV (Train a Grande Vitesse) made its inaugural trip as a mobile hospital. It is intended to shuttle patients from the hardest hit region to hospitals with more capacity, easing the stress on resources. Aside from rail infrastructure, the French government mobilized trains, helicopters and even a warship. (5) Precedents like the aforementioned are of course not limited to a European context but encountered across the world. India has -for the first time during 167 years of operation - suspended its rail network converting 20.000 train carriages into Covid-19 emergency units.(6)

Boats and cruise ships serving as floating hospitals

One week earlier, the architectural magazine “Domus”, published about a ship in Genoa that would turn into a hospital in order to provide assistance to COVID-19 patients required to spend a period in medically equipped facilities before returning home, alleviating on ground hospitals capacity. (7) Grandi Navi Veloci docked on March 19th at Ponte Colombo in Genoa’s Ferry Terminal and according to the port authority president, Paolo Emilio Signorini “It has been a prime example of how the port can serve a new role for the city”. (8)
In the US, on the 30th of March, the largest boat – hospital in the world, USNS Comfort, anchored in Pier 90 of New York city to treat patients aside from Covid-19. It has a capacity of treating around 1000 patients.(9)

In today’s fast changing environment, it is no longer surprising that trains can be turned into intensive care units, floating structures become hospitals and football stadiums Covid-19 treatment centers. The logistic, efficiency oriented city becomes the priority in times of crises, rather than its social spectrum of leisure and public life.
But what happens during tranquil times?
Could we reverse this equation and put weight on the city’s social spectrum instead?
These times of crises when immediate responses are required, make us wonder whether this flexibility and adaptability is only limited to periods of turmoil or whether it is a lesson to learn from in order to start thinking of urbanization in a more porous way. The capacity of cities in repurposing its infrastructure to respond to a crisis can be considered a sign of resiliency and a light of hope in opening up a discourse for urbanism as a dynamic discipline, capable, not only to transform fast during extreme conditions, but to take on steps and adapt according to societal and environmental needs.

References

1. European Comission, Schengen area https://ec.europa.eu/home-affairs/what-we-do/policies/borders-and-visas/schengen_en

2. Braidotti, Rosi. Nomadic theory: the portable Rosi Braidotti. Columbia University Press, 2011.

3. Aldea Eva. (n.d.). Nomads and migrants: Deleuze, Braidotti and the European Union in 2014 OpenDemocracy. Retrieved April 9, 2020, from https://www.opendemocracy.net/en/can-europe-make-it/nomads-and-migrants-deleuze-braidotti-and-european-union-in-2014/

4. Luis Fernández-Galiano. (2020). La democracia virica. Arquitectura Viva 222.

5. Al-Arshani, S. (n.d.). France turned one of its high-speed trains into an ambulance to transport coronavirus patients across the country. Business Insider. Retrieved April 14, 2020, from https://www.businessinsider.com/france-uses-medically-equipped-train-to-transport-covid-19-patients-2020-3

6.CNN, H. R., for. (n.d.). India has closed its railways for the first time in 167 years. Now trains are being turned into hospitals. CNN. Retrieved April 15th, 2020, from https://www.cnn.com/2020/04/05/asia/indian-railways-coronavirus-hospitals-intl-hnk/index.html

7. Piccardo Emanuele. (2020, March). The ship as the symbol of a health emergency. Retrieved April 14, 2020 from https://www.domusweb.it/en/news/2020/03/18/the-ship-as-the-symbol-of-a-health-emergency.html

8. The GNV Splendid “floating hospital” ship docks in the Port of Genoa • MedCruise. (2020, March 20). MedCruise. https://www.medcruise.com/news/the-gnv-splendid-floating-hospital-ship-docks-in-the-port-of-genoa

9. Laborde, A. (2020, March 30). Un barco hospital con mil camas y 12 quirófanos llega a Nueva York. EL PAÍS.
Retrieved April 14, 2020, from https://elpais.com/sociedad/2020-03-30/un-barco-hospital-con-mil-camas-y-12-quirofanos-llega-a-nueva-york.html

SPACES IN MOTION

Hybrid collectivities for a nomadic practice

by
Sophia Arbara
Phd student in Urban planning
Roma Tre University

Rocio Calzado Lopez,
Urban designer
MVRDV

Luis Lecea

1

Societies have for a long time argued upon our nomadic versus sedentary forms of relating to space. Cain and Abel have been the first symbols in representing these two archetypal ways of dwelling the world. Cain being a farmer and Abel a stockmaster, represent the two different natures of human existence; the sedentary, devoted to the cultivation of the soil and the definition of land, and the nomadic, being a shepherd, a subject that is scattered across an expanse of territory. These two terms have been examined again in the contemporary spatial discourse. Opening them up in today's complex and fast changing urban environment seems more relevant than ever before.

While new forms of mobility and unprecedented infrastructural developments allow us to go from one place to another faster than before, digitalization bounds our activities in a virtual space of networks, making movement easier than ever. This flexibility of movement gives us the opportunity to reshape the way we have inhabited space until now, and shift from a static living pattern, based on land distribution and accumulation of goods, towards a nomadic pattern, resources can be collectively shared. Under the nomadic concept, whether we move or not, our relationship to place becomes secondary to the principle of motion.

The ongoing Covid-19 spread is a relevant example that demonstrates two aspects of our nomadic existence; how hyperconnected we are and how bound to motion our identity is. Resembling a digital virus, it quickly crosses territories and expands across all continents. In an attempt

2

> ***How collective spaces could be designed as part of a journey adapted to today's digital reality?***

to mitigate the expansion of it, national governments are taking overnight measures that impede our ability to move, paralyzing human mobility, shutting down national borders and closing Europe's border-free Schengen zone.

In this article we argue that even though a paradigm shift has happened towards a more nomadic pattern, the way we have been designing contemporary urban spaces to date fails to adapt to this new reality in two aspects. It fails to weave, on one hand, our de-spatialized digital existence with our physical one and on the other, the emerging mobility infrastructure with our need for social spaces. We believe that this paradigm shift could become a key factor to reconceptualize the current efficiency oriented infrastructures of mobility as collective spaces of a nomadic world, where hybrid (digital and physical) activities take place.

It is not the first time that the aforementioned topic is being approached. Georgy Krutikov's "Flying city" envisioned urban spaces on constant movement and emphasized on social activities that would take place within that movement. His flying infrastructure of mobile homes was able to dock at collective housing units, factories, hotels and leisure centers. Harvey Wiley Corbett's model of a city was a multi-layered section where movement of vehicles and passengers would cross spaces of social encounter, without disturbing –but actually supporting– one another. In the contemporary discourse, Pier Vittorio Aureli is tackling the question of collective spaces through reinterpretations of the current patterns of domesticity and production, collectivity and isolation.

We draw reference from these examples to think about how collective spaces could be designed as part of a journey adapted to today's digital reality. Within this hyperconnected context, the limits of the territorial, the urban and the architectural scale become blurred and its effects intertwined. From territorial migrations, regional mobility to local data hubs, a multiscalar approach is needed to understand the way we operate within this nomadic space.

Through speculative design proposals, we explore the possibilities of the new spatial realities and challenge our role as urbanists, architects and designers to reframe the contemporary space under the notion of movement.

To stress the effects of such a design, we use photogrammetry as a technique

that contains motion within its own performance. Driven by forensic approaches, we break down static milieus into particles. Through both the represented result and the technique itself, we incorporate the nature of space in movement and picture images of nomadic narratives. What if national boundaries become movement pathways, subways are transformed into event halls and housing units become apparatuses of spatial tracking?

Figure 1 - Memory box (the interior)

The box of memory is the digital version of every house. It includes the walls, the floor, the different doors and windows, and all sorts of objects that have ever entered this place. The digital tracking of the objects movements is presented as the only footprint of past activities; the long evenings, the summer mornings or that one huge party. Once the activities stop, the walls of the house store the displacement of objects across time. The housing unit becomes the carrier of bites of memories, that when put together can predict new spaces based on the analysis of previous movements. These new spaces are an updated version of the previous one, more efficient and optimized. The footprint of motion turns into the main element to predict a future design. A design that is new but has old memories.

Figure 2 - Transient typologies (the unit)

Under the stress of a global health crisis, cities were asked to take fast and precise solutions. The faster cities were able to adopt urban solutions and adapt their infrastructural typologies, the more effective their measures were too. In the scenario of an overcrowded healthcare system, Paris opted to transfer patients to its neighboring regions. To do so, trains were turned into temporary hospitals. In a similar way, New York brought the world's biggest hospital ship to anchor in Pier 90 and become an additional hospital for the city. The post Covid-19 city developed a new dynamism. It learned that trains can become hospitals one day, and massive concert halls the following one. Functions move along the city, changing neighborhood dynamics and providing external infrastructure at the exact place where that is required and whenever needed. This makes urban space capable of overcoming health crises, adapting to major cultural events or providing better services for each season. A typological switch makes the city grow in resilience.

Figure 3 - Fluxes of encounter (the city)

It is not yet clear how and if a city should end. The 21st ce ntury metropolis dilutes into a land of infrastructural nothingness before it becomes a new urban cluster. This nothingness is broad and grey. It consists of highways, big boxes, and little

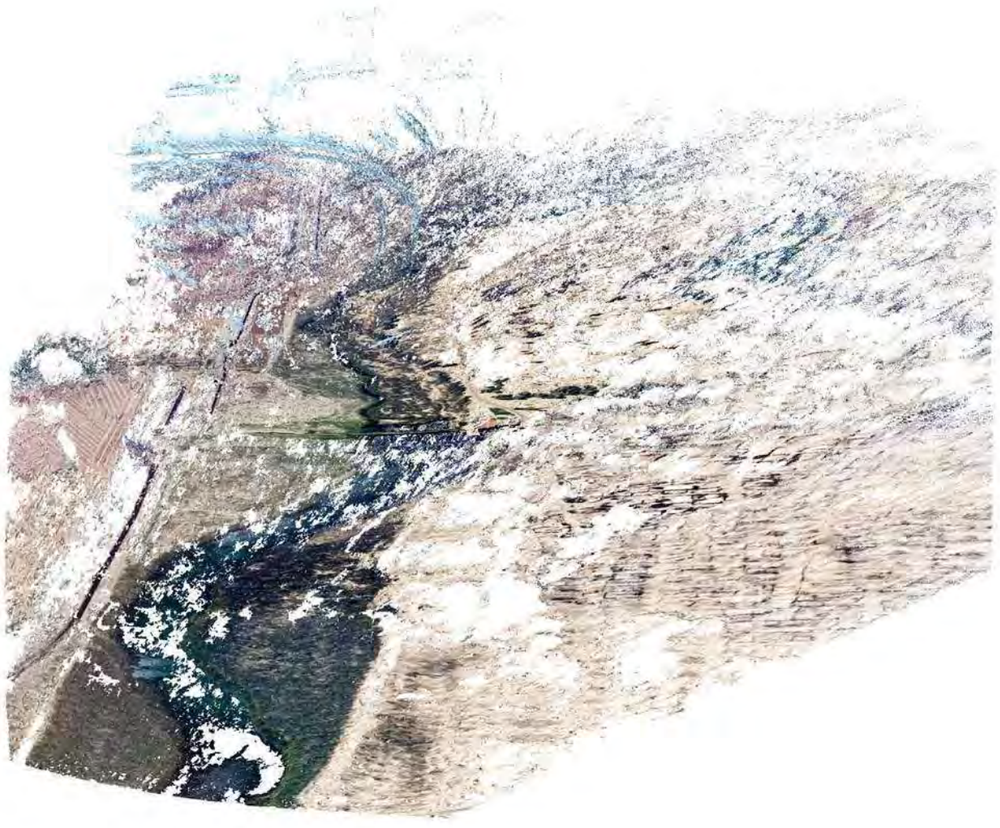
3

civic consciousness. Speculating upon future alternatives, this grey could become the primary source of energy circulation. Redirecting this flow towards alternative urban usages, an atomized new urban pattern could rest on top of the existing structures. The small plot division of this new layout opposes the broadness that is found below. The constant flow of the infrastructure is visible from the new streets. Its intensity is not ignored; it nourishes the daily urban habits through both energy and passenger flows. This unit based maze starts and ends; it has become a place on its own.

Figure 4 - Shifting boundaries (the territory)

August 2120. Group X is on the move, in search of a new place of staying. Water pollutants in Aziad destroyed any agricultural production and made potable water and irrigation poisonous. For the first time, they will cross the physical border of the river and move to the "other side". Not knowing where to settle, they decide to traverse the boundary on foot. They are almost there. GPS tracking, 500 meters away. Nevertheless, the more they approach it, the further it appears. Aren't they moving? Or is the borderline shifting? GPS, 800 meters away. That should not be possible, borders are amongst the most rigid man-made inventions. Until they realize it, they are moving on the borderline, going downstream. Instead of a border, they encounter a floating pathway, a corridor for people on the move. Along the river, places of staying and spaces of movement are intertwined.

Fig. 1. Memory box. Source: Authors.
Fig. 2. Transient typologies. Source: Authors.
Fig. 3. Fluxes of encounter. Source: Authors.
Fig. 4. Shifting boundaries. Source: Authors.



References:

Aldea, E. (2014). *Nomads and migrants: Deleuze, Braidotti and the European Union in 2014. openDemocracy. https://www.opendemocracy.net/en/can-europe-make-it/nomads-and-migrants-deleuze-braidotti-and-european-union-in-2014/ . Accessed April 9, 2020.*

Bhatia, N., & D'Hooghe, A. (2012). *Dissolving the grey periphery. Thresholds, 83-90.*

Hilal, M. (2019). *Time and Space in the Symbolism of Abel and Cain. Medium. https://medium.com/the-sings-of-the-times/time-and-space-in-the-symbolism-of-abel-and-cain-ren%C3%A9-gu%C3%A9non-3e20035f035f . Accessed April 13, 2020.*

Fernández-Galiano, L. (2020). *La democracia virica. Arquitectura Viva 222*

Laborde, A. (2020). *Un barco hospital con mil camas y 12 quirófanos llega a Nueva York | Sociedad | EL PAÍS. https://elpais.com/sociedad/2020-03-30/un-barco-hospital-con-mil-camas-y-12-quirofanos-llega-a-nueva-york.html . Accessed April 13, 2020.*

Piccardo, E. (2020). *The ship as the symbol of a health emergency. https://www.domusweb.it/en/news/2020/03/18/the-ship-as-the-symbol-of-a-health-emergency.html . Accessed April 9, 2020.*

AESOP YOUNG ACADEMIC NETWORK CONFERENCE "GOVERNING THE UNKOWN", FORTH. MARCH 2021

Using Macro - and micro - urban analysis tools to understand culture led pedestrial flows

The case of the Trevi Pantheon route in times of Covid - 19 and beyond

Along with contemporary urban theories which put on the epicenter the interrelation between social life and physical space as networks movement and static constructs, institutions working towards culturally sustainable urban environments have adopted new conceptual frameworks and tools to successfully manage historic sites as part of an integrated urban system (UNESCO Historic Urban Landscape, 2011; UN Sustainable development goals). This emerging direction in considering heritage as part of urban space opens up new potentialities and the need to combine and develop multidisciplinary tools in order to both reinterpret the past and better envision the future. By dealing with heritage as an integrative part of the urban landscape, this research aims to test tools currently in use in the urban science to understand the complex relation between cultural heritage and pedestrian movement in cities.

The case study to explore the aforementioned question are the three different trajectories that lead visitors from Trevi fountain to Pantheon, connecting the two main attraction sites in the city of Rome. By applying macro spatial analysis tools (space syntax), observation techniques (static snapshots) and micro spatial analysis, on the three main trajectories during and after Covid-19 we are able to understand i) the different patterns of movement during peak moments of tourism flows and low moments (during the Covid-19 mobility restrictions) ii) whether certain spatial characteristics affect the visitors preferences in the choice of trajectory. The analysis of the results brings up the intertwined relationship between movement and cultural site valorization and in particular, how the integration of cultural spaces into the city's wider movement patterns affects their role as a place of memory.

JERUSALEM MASTERCLASS MARCH 2021

with Heriland work package "Shifting demographies and contested identities"

(Mike Turner, Ana Jayone Yarza Perez, Maria Valese, Komal Potdar)

FORTH. MARCH 2021

BEZALEL WORKSHOP BRIEF (March 14 - 20)
Mapping urban narratives

The aim of this workshop is to understand how heritage can create bridges, observing heritage as conflict versus heritage as consensus. For this matter, we will do some fieldwork in the city of Jerusalem, in the Old City, other neighbourhoods and with the collaboration of undergraduate students of Bezalel. Moreover, a master class and a symposium will be taught by relevant ponents to broaden our views on the topic. The methods used during the workshop will serve the ESRs in their own work, as the focus will be on the subject of mapping, being a powerful to represent data and storytelling, as well as being common to all the HERILANDERS and relevant for heritage and planning work.

Jerusalem is a city of contrasts where diverse communities, picturesque old neighborhoods, and new urban developments meet. Its thousand years of history have created an urban mosaic composed of diverse populations and multiple identities. In this workshop, we aim to explore the complexity of Jerusalem through different angles and scales: the metropolitan scale, the historic core and its visual representations.

The draft agenda goes as follows:

Pre-workshop assignment | Perceptions about Jerusalem

The ESRs will be requested to prepare some materials in advance. These will include two parts:
Reading bibliography on the topic: mapping ,and about Jerusalem's history linked to a written assignment.
Answering a survey on their perceptions about Jerusalem. This will serve us, WP4, to get an understanding of the preconceptions, and will be part of the exercise during the workshop (mapping perceptions, comparing preconceptions with the ones after the 5 day workshop, other exercise.)

WP4 pre visit | The week before the workshop

Sophia and Maria will come to Israel a week in advance to prepare the workshop and work on the WP4 issues in more depth. For this purpose, a visit to Acre will be organized where the team will meet our local partners (the Municipality, IAA and Development Co.) and visit the site. This will provide a better understanding of the working theme: Contested identities and shifting demographies. Another visit will be organized in Tel Aviv, probably with WP3 team. We will visit the White City centre and do some activities in collaboration with the other team. Finally, we will visit Jerusalem, meet with local partners and polish the workshop details on site.

Introduction to the workshop and the city of Jerusalem
Day 1 | Intro on mapping and its possibilities; agreeing on what to forget. Decisions in mapping and its significance.

On the first day, we will meet at Hansen House to introduce the workshop and give a short presentation about what we are going to do. Why we choose the topic of mapping, how it can be useful to our research and what are the different possibilities that this tool offers to us. We can include a slideshow with important maps across history and disciplines (very conceptual, very precise ones, minimal vs very detailed ones, etc).

When it comes to representing research outcomes, mapping is a powerful tool to convey our message in a broader audience as well as a tool to represent complex information. It can be perceived as a combination between art and geography; a completely conceptual or representational tool, it can be digital or analog. It involves a careful selection of the data we want to represent and the stories we want to convey. Why on the first hand are we creating that map? What kind of map and who is our audience?

The second half of the day we will organise a short visit to Mount Scopus and Arnona Haratzin to get an overview of the city. This visit will serve to set the scene and introduce the theme of contested identities, with Jerusalem in focus.

Fieldwork:
Groups will be organized, composed of the HERILANDERS, supervisors and under-graduate students from the seminar in Bezalel. The students will be briefed on what to do during the workshop, and will be the guides in the city, facilitating the fieldwork.
The Rav-Kav for all the participants should be purchased and topped up.
Maps and material for the fieldwork should be provided (A2 paper, markers, tape…)

Day 2 | Getting familiar with the metropolitan scale

On the first site visit, we are going to explore the city as a whole. Each group will take a public transportation rout: an Arab bus, the tramway and the Israeli bus). We will all meet in Damascus gate, to start or finish the route. During the trip each group will look for representations of identity, points of conflicts and convergence, symbols, landmarks, diverse urban patterns, morphology and mobility. Photographic documentation, video recording or sketching are tools that might help on that. Guidance will be provided before the trips start.

Day 3 | Exploring the historical center

Getting to know the Old City of Jerusalem. For this exercise, the groups will walk in different directions starting from the Old City core in different directions. They will map, photograph and draw the elements to understand the selected route. Participants will be asked here to reflect upon this site in relationship to the whole and identify reciprocities among the two scales.

Group work at Hansen House
The working room should be reserved.
Stationery should be provided for each group.
A projector is needed, as well as blank walls and tape for the exhibition.

Day 4 | Mapping Jerusalem: different scales and perceptions. How we decide what to represent and what to leave out.

In groups, the information collected the previous days will be put together. Firstly, each group will translate their findings into 2-3 maps, picture collage and other means of representation. After, this will be presented to the other groups and finally the information from the groups will be combined into 1-2 maps that will be the agreed representation of Jerusalem by the participants.

We could already have some Gis data available for the participants that if useful for their project, they can use.
This day is dedicated to group work .

The evening a symposium will be held. We need to confirm who will present and the topic.

Related bibliography/references:

Corner, James. The agency of mapping: speculation, critique and invention. na, 1999. http://n.fonty.free.fr/PhD/Corner-The%20Agency%20of%20Mapping_ch12.pdf

Day 5 | Final Presentation and Evaluation

The first half of the day will be invested in finishing the combined maps and preparing its presentation. The presentation slot will also serve to compare the outcome with the pre-assignment about the preconceptions on Jerusalem. We will reflect on this subject.

The second half of the day will be used for workshop evaluation and HERILAND requirements (Research Council, WP leader meeting, etc.).

BEZALEL WORKSHOP BRIEF (March 14 - 20)
Mapping urban narratives

The aim of this workshop is to understand how heritage can create bridges, observing heritage as conflict versus heritage as consensus. For this matter, we will do some fieldwork in the city of Jerusalem, in the Old City, other neighbourhoods and with the collaboration of undergraduate students of Bezalel. Moreover, a master class and a symposium will be taught by relevant ponents to broaden our views on the topic. The methods used during the workshop will serve the ESRs in their own work, as the focus will be on the subject of mapping, being a powerful to represent data and storytelling, as well as being common to all the HERILANDERS and relevant for heritage and planning work.

Jerusalem is a city of contrasts where diverse communities, picturesque old neighborhoods, and new urban developments meet. Its thousand years of history have created an urban mosaic composed of diverse populations and multiple identities. In this workshop, we aim to explore the complexity of Jerusalem through different angles and scales: the metropolitan scale, the historic core and its visual representations.

The draft agenda goes as follows:

Pre-workshop assignment | Perceptions about Jerusalem

The ESRs will be requested to prepare some materials in advance. These will include two parts:
Reading bibliography on the topic: mapping ,and about Jerusalem's history linked to a written assignment.
Answering a survey on their perceptions about Jerusalem. This will serve us, WP4, to get an understanding of the preconceptions, and will be part of the exercise during the workshop (mapping perceptions, comparing preconceptions with the ones after the 5 day workshop, other exercise.)

WP4 pre visit | The week before the workshop

Sophia and Maria will come to Israel a week in advance to prepare the workshop and work on the WP4 issues in more depth. For this purpose, a visit to Acre will be organized where the team will meet our local partners (the Municipality, IAA and Development Co.) and visit the site. This will provide a better understanding of the working theme: Contested identities and shifting demographies. Another visit will be organized in Tel Aviv, probably with WP3 team. We will visit the White City centre and do some activities in collaboration with the other team. Finally, we will visit Jerusalem, meet with local partners and polish the workshop details on site.

Introduction to the workshop and the city of Jerusalem
Day 1 | Intro on mapping and its possibilities; agreeing on what to forget. Decisions in mapping and its significance.

On the first day, we will meet at Hansen House to introduce the workshop and give a short presenta-

tion about what we are going to do. Why we choose the topic of mapping, how it can be useful to our research and what are the different possibilities that this tool offers to us. We can include a slideshow with important maps across history and disciplines (very conceptual, very precise ones, minimal vs very detailed ones, etc).

When it comes to representing research outcomes, mapping is a powerful tool to convey our message in a broader audience as well as a tool to represent complex information. It can be perceived as a combination between art and geography; a completely conceptual or representational tool, it can be digital or analog. It involves a careful selection of the data we want to represent and the stories we want to convey. Why on the first hand are we creating that map? What kind of map and who is our audience?

The second half of the day we will organise a short visit to Mount Scopus and Arnona Haratzin to get an overview of the city. This visit will serve to set the scene and introduce the theme of contested identities, with Jerusalem in focus.

Fieldwork:
Groups will be organized, composed of the HERILANDERS, supervisors and under-graduate students from the seminar in Bezalel. The students will be briefed on what to do during the workshop, and will be the guides in the city, facilitating the fieldwork.
The Rav-Kav for all the participants should be purchased and topped up.
Maps and material for the fieldwork should be provided (A2 paper, markers, tape…)

Day 2 | Getting familiar with the metropolitan scale

On the first site visit, we are going to explore the city as a whole. Each group will take a public transportation rout: an Arab bus, the tramway and the Israeli bus). We will all meet in Damascus gate, to start or finish the route. During the trip each group will look for representations of identity, points of conflicts and convergence, symbols, landmarks, diverse urban patterns, morphology and mobility. Photographic documentation, video recording or sketching are tools that might help on that. Guidance will be provided before the trips start.

Day 3 | Exploring the historical center

Getting to know the Old City of Jerusalem. For this exercise, the groups will walk in different directions starting from the Old City core in different directions. They will map, photograph and draw the elements to understand the selected route. Participants will be asked here to reflect upon this site in relationship to the whole and identify reciprocities among the two scales.

Group work at Hansen House
The working room should be reserved.
Stationery should be provided for each group.
A projector is needed, as well as blank walls and tape for the exhibition.

Day 4 | Mapping Jerusalem: different scales and perceptions. How we decide what to represent and what to leave out.

In groups, the information collected the previous days will be put together. Firstly, each group will translate their findings into 2-3 maps, picture collage and other means of representation. After, this will be presented to the other groups and finally the information from the groups will be combined into 1-2 maps that will be the agreed representation of Jerusalem by the participants.

We could already have some Gis data available for the participants that if useful for their project, they can use.
This day is dedicated to group work .

The evening a symposium will be held. We need to confirm who will present and the topic.

Related bibliography/references:

Corner, James. The agency of mapping: speculation, critique and invention. na, 1999. http://n.fonty.free.fr/PhD/Corner-The%20Agency%20of%20Mapping_ch12.pdf

Day 5 | Final Presentation and Evaluation

The first half of the day will be invested in finishing the combined maps and preparing its presentation. The presentation slot will also serve to compare the outcome with the pre-assignment about the preconceptions on Jerusalem. We will reflect on this subject.

The second half of the day will be used for workshop evaluation and HERILAND requirements (Research Council, WP leader meeting, etc.).

Related bibliography/references:

Corner, James. The agency of mapping: speculation, critique and invention. na, 1999. http://n.fonty.free.fr/PhD/Corner-The%20Agency%20of%20Mapping_ch12.pdf

Day 5 | Final Presentation and Evaluation

The first half of the day will be invested in finishing the combined maps and preparing its presentation. The presentation slot will also serve to compare the outcome with the pre-assignment about the preconceptions on Jerusalem. We will reflect on this subject.

The second half of the day will be used for workshop evaluation and HERILAND requirements (Research Council, WP leader meeting, etc.).

Thesis outline

Understanding the reciprocal relationship between cultural mobility, culture and mobility in urban space

The case of Rome's street networks

Phd Candidate:
Sophia Arbara

Università degli Studi Roma Tre
Department of Architecture
under the program of HeriLand

Supervisory board:
Maria Margarita Segarra Lagunes
Francesco Cellini
Anna Laura Palazzo

November 2020

ABSTRACT

Along with contemporary urban theories which put on the epicenter the interrelation between social life and physical space as networks, movement and static constructs, institutions working towards culturally sustainable environments have adopted new conceptual frameworks to successfully manage historic sites as part of an integrated urban system.
This emerging direction in considering heritage as part of urban space opens up a dialogue where there is a need to test the existing and develop new tools for an integrative practice. With the aim to further explore this emerging direction, this research focuses on one important challenge, linked to cultural space: the notion of mobility.

The hypothesis foregrounded here is that cultural heritage and mobility are strongly related in two aspects; cultural spaces have long been generators of movement in urban areas, attracting large flows of people and the opposite; movement on a larger scale and across time, if crystallized, can form part of both an intangible and tangible urban heritage. The spatial element selected to frame this study is the most important container of mobility and heritage sites; the space of the street. The element of the street, is obviously not limited to a mere functional element of cities; being a public space, a networked space, a a space to project the image of the city, it performs multiple roles within the city. How do the characteristics of the street space affect the valorization of cultural sites and cultural movement? Can the street, as carrier of intangible (movement) and tangible (space) become an cultural artifact per se?

This project tackles these questions through the territory of Rome, a palimpsest with a rich anatomy. Its thousand years of urbanization, the vast and conflicting heritage of the city, the variety of representational regimes and its geographical features make it the most appropriate ground to explore the hypothesis from a multiplicity of angles, time periods and methods.

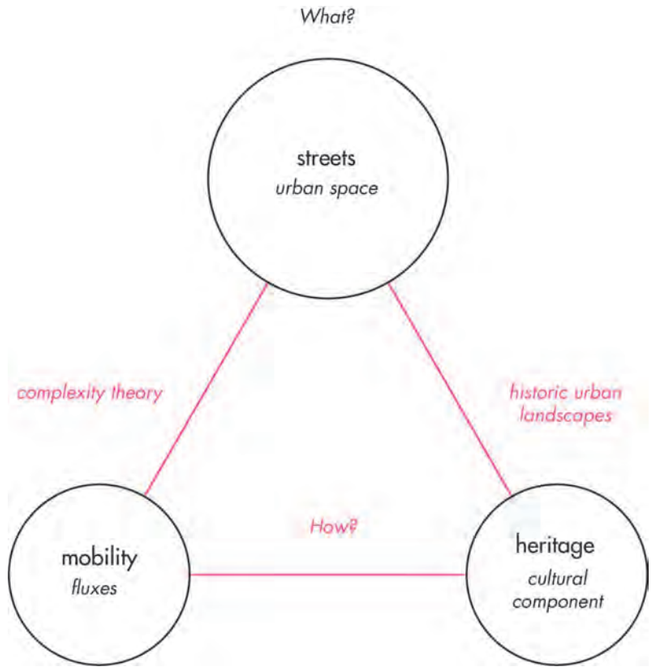
Within the city's broad chronological division, we use methodologies applied in the fields of urban design and the study of cities to read three main episodes and street networks aiming to understand, test and project upon possible alternatives for the future city of Rome; a core aspect of which is the reinterpretation of its relationship between movement and culture.

INDEX

1.0 INTRODUCTION

1.1BACKGROUND

Managing and understanding what is heritage in an era of urbanization and increased mobility is becoming more and more complex as cities are facing challenges such as climate change, urban development, tourism pressures. Probably now more than ever, the conflict of our tangible and intangible heritage values that are in conflict with our equally own values of progress and development (Ganiatsas 2010)
The relationship between heritage and the city is complex yet crucial to be adressed, especially in an era of increased culutre-led mobility -at least before covid-19.
Urbanism, being the discipline that is concerned with the relationship between the spatial structure of the physical built environment and the socioeconomic life of urban spaces can provide a science based, participatory and design-oriented synthesis of a practice (Orff, 2016)to address and respond to these challenges setting the ground to move towards inclusive and sustainable urban spaces.



1.2 HYPOTHESES, RESEARCH AIM AND SCOPE

1.2.1 Hypothesis

The hypothesis foregrounded in this research project is the following.
Cultural heritage and mobility are strongly related in two aspects; cultural spaces have long been generators of movement in urban areas and the opposite; movement on a larger scale and across time, if crystallized, becomes part of the urban heritage:

1.2.2 Aim of the research

a. Theoretical
Provide a deeper understanding of how cultural heritage has been valorized in regards to its position in space and in particular the link between urban movement, mobility and heritage valorization. Can movement across one streetscape become heritage and the opposite; how does culture-led movement affect the urban space of the street?

b. Analytical
Understand while conducting the three case studies, whether design interventions have managed to crystallize this past movement and/or enhance present accessibility and circulation

c. Methodological
Through the proposed research design to provide a methodological framework to consider how certain design and planning decisions can valorize urban space as heritage. How can urban design and planning tools better integrate strategies to consider the space of the street (and more general urban space) as heritage?

1.2.3 Scope of the research

The present research project falls within the scope of urban design, urbanism and spatial analysis, yet it incorporates knowledge and methods that go beyond the disciplinary boundaries, taking an interdisciplinary approach. For the scope of this topic, theoretical frameworks and methodological tools deriving from the field of landscape design, urban planning and (critical) heritage studies, are incorporated in this project. Through this approach we aim to test methods for spatial analysis and identify new research trajectories for future practice.

2.0 RESEARCH METHODOLOGY

In this part we explain the methods, tools and models that we intend to use to carry on this research project. Both a brief explanation of the selected methods ("how") as well as the theoretical underpinnings of these will be provided in this chapter ("why").

2.1 Background and definitions. Literature review

2.1.1 The nature of the question

As Rittel and Weber already defined in 1973, Planning and design problems are wicked problems and thus, "The information needed to understand the problem depends upon one's idea for solving it." (Rittel and Webber 1973)
Within that frame, we will provide explanations as of why each method was considered appropriate for this question yet the reader should bear in mind that when dealing with "wicked problems", a unique formulation of the problem does not exist, neither one true or false solution but instead "better" or "worse". That said, the methodology used and proposed here is not to be seen as a "recipe" to be implemented per se in other contexts and cases, but rather as an attempt to shed light on the topic of mobility, accessibility, valorization of cultural heritage and urban street space and provide a methodological framework to carry on such studies within these disciplines and by using contemporary methods and tools.

2.1.2 The study of cities / understanding urban networks

On a broader framework, the methodology implemented in this project aims to shed light on the study of the spatial culture of cities, understanding them as complex organisms where material, immaterial flows and networks, past and present are intertwined.
In the introduction to his Cities and Complexity, Batty (2005) notes that CTC have provided sound theoretical basis with mathematical formalism to the intuitive ideas suggested by Jean Jacobs (1961) (and Christopher Alexander too) more than 40 years ago.
Complexity theory of cities according to Portugali, is not about inventing a new theory but giving a single and sound theoretical basis to a variety of urban phenomena and properties that so far were perceived as independent of each other (Portugali 2011). And in particular the framework he sets
aim to incorporate both cultures - the culture of the sciences and the scientists and the culture of the arts and humanities (Portugali 2011). Batty, goes beyond a historical analysis of complexity and cities and adds an approach driven by a focus on the spatial structure. In its book, "The New Science of Cities", he argues that "...cities must now be looked at as constellations of interactions, communications, flows, and networks, rather than as -locations..." (p. 13) and addresses urban structures such as space syntax and network morphology with research examples in Chapters 6 and 7 which become important precedents for the methodological approach of this thesis (Batty, 2017).

This adds to the already established literature of Hillier and Hanson, who, starting from the premise that there is a dynamic interaction between space and social relations, they assess how the configuration of space affects human cognition, summarizing the empirical experience of "inter-visibility" in a mathematical formula (Hillier & Hansen, 1984). Space syntax theory assumes that urban form is a product of spatial culture (Hillier and Hanson 1986) and provides a link between the material and immaterial aspects of 'spatial' culture. Its conceptual basis seeks to address the space–society relationship as a dynamic and open-ended formative process of spatial and social structures in mutual co-dependence (Hillier and Vaughan 2007). The predominance in much empirical space syntax research is the correlation between

'integration' (spatial form) and 'movement' (temporal process), two aspects that this thesis will aim to explore.
By facilitating the comparative study of urban form through time space syntax research has opened up a number of possibilities for exploring the relationship between urban transformations and social activity (Griffiths 2012). In addition to that, mobilities design is over the past years becoming a research field in and of its own, with scholars arguing that there is a pressing need for targeting the material, physical and design-oriented dimensions of multiple mobilities (Jensen in Griffiths and Lünen 2016).

Adopting both the theoretical drivers as methodological guidelines and the computational tools available to conduct such a research is what this research aims for. The methodological question, thus, that this project poses is: which tools allow us to better integrate heritage and accessibility to the urban planning & design processes?

2.1.4 T Managing and understanding cultural heritage in an era of increased urbanization

The contemporary debate on cultural heritage, supported by the Historic Urban Landscape (HUL) approach by UNESCO (2011) seeks ways to adapt to the conditions of change and aspires to go beyond what has been the definition of the historic city. "In fact, the partition between what is 'historic' and what is not is in-creasingly seen as an artificial one, as every city is densely layered as a series of 'episodes', where heritage is viewed as the flow and mix of these events rather than as an arbitrary selection of some urban parts defined as 'historic'."(Bandarin and Oers 2012,190). While until recently cultural heritage had been seen primarily through conservation, seen as a static object (Obad Š itaroc, Bojani Obad Š itaroci, and Mr a 2019), the HUL approach encourages heritage to be integrated into planning policy and design and argues that planning should enable mechanisms for balancing sustainable development and protection.
Aside from the HUL, over the past years a series of policies and recommendations have adopted a broader and innovative framework to tackle heritage as part of urban design and planning.

• The Charter on Sustainable European Cities (2007) and the European Urban Charter II (2008) puts emphasis on multi- and inter-disciplinary research tools for effective integration of cultural heritage

• The Valletta Principles for the Safeguarding and Management of Historic Cities, Towns and Urban Areas (2011) stress the necessity to protect and integrate historic and traditional areas into modern community life acknowledging this need as a key element for spatial planning and design

• The Paris Declaration on Heritage as a Driver of Development (2011) recommends integrating heritage into sustainable regional development plans, tourism and the economy.
(Obad Š itaroc, Bojani Obad Š itaroci, and Mr a 2019)

The aforementioned tendencies towards an integration of approaches to the design and management of the built environment are crucial since for the first time since the fracture of modernism, an integration of heritage conservation and urban development as a holistic concept and practice calling for new approaches. Policies and toolkits still need to be defined, and results need to be demonstrated, but across the world examples exist and experiments are taking place(Bandarin and Oers 2012, 188)

2.2 The methodological elements. Outline

To develop this project a combination of methods is being used as a holistic methodology which consists basically of three main parts.

A. The qualitative mapping techniques (Corner 2011; Amoroso, 2009)

"Through rendering visible multiple and sometimes disparate field conditions, mapping allows for an understanding of terrain as only the surface expression of a complex and dynamic imbroglio of social and natural processes. ", James Corner, The agency of mapping

B. The analysis of recent planning & design decisions that informed design in the selected case studies

C. The conduct of an analysis combining spatial macro analysis (space syntax, gis) and microscale tools. (Nes, Lopez, 2010)

The research methodology is designed as a research in design methodology, a process that by being tested in the case studies we expect it to be refined and redesigned while conducting this study.

3.0 THE SPACE OF THE STREET

Street patterns are a dominant component of a city's spatial form and the element tying cultural sites, being cultural artefacts themselves as well as powerful elements that shape the readability between the singular and the universal. Thus, the spatial component where the research question takes place concentrate on this important element of the public realm, circulation space. As aptly stated in "The street as a project", "the confusion between the juridical, infrastructural, and representational aspects of circulation space has made of the street a slippery subject to discuss" (Giudici, 2014). Streets are considered a significant element affecting human spatial behavior, generating mobility and accessibility (Batty, 2005; Marshall, 2005), human wayfinding and imageability (Lynch, 1990), spaces affecting the safety and vitality of urban life (A. B. Jacobs 1995; J. Jacobs 1961; Gehl 2001). The literature about the street is rich yet fragmented. From an architectural and urban point of view, to analyze these elements means to study the void ("the space between buildings"), its built form and the spatial networks as a whole.

What this project aims to look at more closely at is how the street (in our case the three chosen case studies) becomes a space that crystalizes past movement, which (if any) design decisions have embraced this past movement, how current accessibility favors this valorization and what are the tools to analyze and design in the future incorporating heritage and mobility in the urban realm.

A complete historical review of the urban and architectural discourse on streets falls beyond the scope of this project. However, a literature review on the main directions that have shaped the theory and design of the space "between buildings" is crucial before narrowing down to the street in relation to movement and heritage.

3.1 Understanding the space of the street. A literature review

3.1.1 The street as container of landmarks and artifacts

"The view from the Road" is probably amongst the fundamental writings in the architectural discipline that conducted a thorough investigation of the street with the same detail as if it was an architectural element (Appleyard, Lynch, and Myer 1964). This work later on influenced the writing of "Learning from Las Vegas" by Robert Venturi, Denise Scott Brown, and Steven Izenour's Yale book which uses strong representational mapping techniques to analyze the stripe of Las Vegas, through symbolism, icons, drawing parallels to Rome in the '40s. The street as container of landmarks - heritage sites, as an intertwined element with its artifacts that creates an "imageability" of the urban space has been the element of study in Kevin Lynch's "Image of the city" with the environmental image having its original function in permitting purposeful mobility. A sub-question that emerges by the aforementioned literature is whether a street itself can be considered an artifact, or it is the elements (architectural objects) that make its cultural importance.

3.1.2 The street as a vibrant public space

. „The sole legitimacy of the street as public space. Without it there is no city" (Kostof, the city shaped, 1992, p.194)

Below such categorization fall Jacobs ideas arguing on a rediscovery of urbanism and the need for vibrant streets that embrace identity, diversity, community and belonging (J. Jacobs 1961). Building upon the fact that streets are amongst the primary spaces where social activity takes place, Jan Gehl shares ideas on a more "human-centered" approach to public space and the need to a careful observation amongst the interaction between public space and public life (Gehl 2001). At the same time that Jane Jacobs was

arguing for community centered approach, in 1961, Gordon Cullen began the Townscape movement with his book "The Concise Townscape" aiming to return to a more "livable" and "human scale" design of cities (Cullen 1995). Cullen criticized the modern movement of thinking too much in "plan" instead of focusing on people´s perception and suggested a return to a traditional city-square model, receiving both willing recipients and criticism for showing "a populistic, naïve and nostalgic character". (Rowe and Koetter 1983, 36)

3.1.3 The street as infrastructure and networks

An important category of scholars emerging particularly over the past decades are the ones critically engaging with the street as networked infrastructures and flows. Graham and Marvin make an important point by addressing how the contemporary city focuses on "networked spaces" yet at the same time urban spaces are characterized by an increased fragmented condition (Graham, n.d.). On a similar note notable architects and urbanists like Koolhaas, Easterling and Martin Pawley insist, in short, that in the contemporary city, more than ever, "infrastructure, architecture, and landscape amalgamate to become one complex" (Angelil and Klingmann 1999)). Amongst the theorists opening up the discourse on infrastructural space is Stan Allen, who, from the standpoint of an architect, gave a renewed perspective on infrastructures and their potential to shape both local and site specific (bottom - up) as well as territorial (and top - down) dynamics (Allen 1999).

3.1.4 The street as a power apparatus

The space of circulation as a space where social inequality, the state apparatus and surveillance mechanisms reveal their power. Under this category, this discussion was first put on the forefront regarding the city by Levebvre's "Right to city" and later followed by Soja´s writings about spatial justice where he attempts to link this concept to infrastructure through the example of uneven distribution of resources of the Los Angeles Transportation Authority (Soja, 2010).

The streets selected in our Roman case studies, encompass theoretical underpinnings of all the aforementioned broader categorization which in the development of this project becomes the theoretical framework through which to "read" and understand the multiple roles of the space of the street.

4.0 THE ROMAN CONTEXT

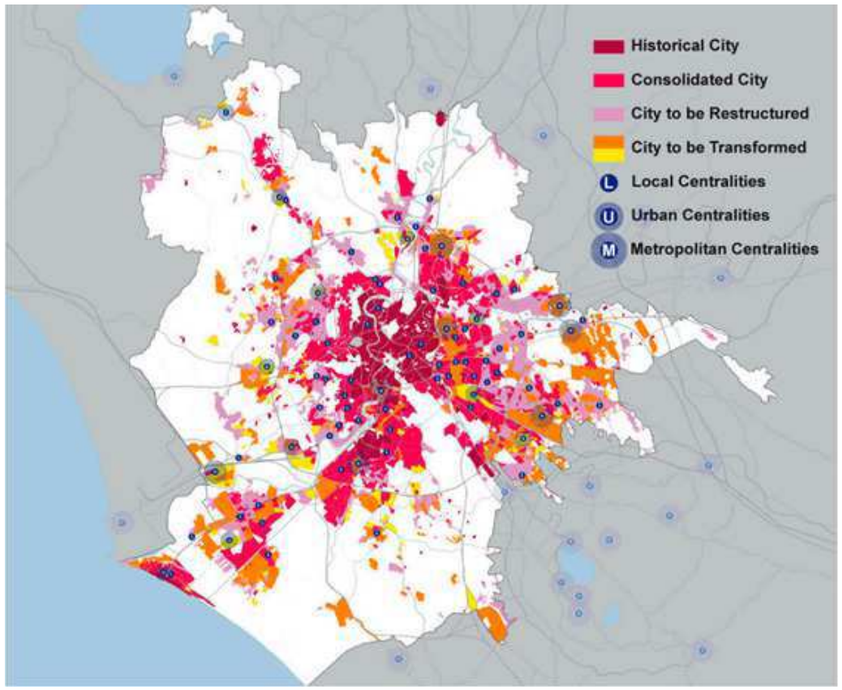
4.1 Why Rome?

The Roman territory, a place that counts with several thousand years of urbanism we believe can illustrate in a unique way the posed research question; the complex relationship between mobility, urban space and cultural artefacts. In addition, the fact that Rome´s development has been subject to extensive research in several academic disciplines and from different perspectives offers a rich empirical material to develop and synthesize the question posed (Bjur and Frizell 2009, 12).

At the same time, the research conducted over the past years in the field of social and urban sciences about contemporary Rome suggest the need for a systemic knowledge regarding the city and its urbanization processes, bridging the different disciplines under a "system of systems" (Copolla and Punziano 2018, 14).

Being a renowned and almost "obligatory" destination for tourism due to its rich cultural heritage (declared a World Heritage site by UNESCO in 1980), Rome holds an important position in the international and national tourism market (Gemmiti 2019, 2). Over the centuries of urbanization, the city has "produced" an extremely rich and extraordinarily conflicting heritage, the interpretation of which goes far beyond local interests but concerns the interpretation of Western civilization. The, till now, massive exploitation by the tourism industry has reduced the historical complexity of Rome to mere imagery, and has fostered a long-discussed division; that of the historic city (the city center) and the periphery that for a long time has lacked a cohesive urban design and planning strategy.

This is a result of the urbanization processes taking place during the period after the second World War, where planning in Rome mainly focused on safeguarding the historic center (partly because of policing by an international network of intellectuals), (Montanari 1976) and allowed for urban sprawl (deliberately or not) in the suburbs to happen (Montanari 1993).



Source: http://www.urbanistica.comune.roma.it/prg.html

4.1.1 The latest Master Plan of the city. Detailed planning policies, challenging implementation

The latest Master Plan of the city or Piano Regolatore Generale / PRG (adopted in 2003 and approved in 2008) has emphasized on responding to the pressing challenges that the city faces with the strategy to "modernizzare il centro storico e storicizzare la periferia", (Marcelloni 2003, 81), to modernize the historic center whilst revealing the history of its periphery. This strategy comes together with the initiative to create new urban centralities each of them hosting a variety of programs and encompassing a wide area of the urban metropolis and is the result of a series of policies implemented between 1993 and 2008 by the center - left city council.

Inspired by European principles of sustainable development of the late '90s where an integrated urban planning strategy along with transport policies became the new benchmark for European cities (Delpirou 2012), the new Masterplan of Rome, PRG 2003 appeared as the successful "Roman development model" (Marcelloni 2003) following the aforementioned principles. This came as a strong turning point for the planning policies of a city, that until recently was characterized by urban planners as the „bottom class in European planning" (Insolera 1962).

The new PRG aimed to create a direct link between mobility and urban development in the sense that the former is conditional upon the presence or the creation of a station on the urban or regional rail network (Delpirou 2012). In addition, the PRG aimed to concentrate suburban development around the most important stations, by putting these stations at the heart of the new centralities.

Albeit the new PRG appeared as a promising and detailed set of regulations in order to plan the future of the city, disparities among the intentions of urban policies and the changes adopted on the ground are prominent. Identifying the major challenges and weak points of its implementation, is crucial in order to identify the complexities of our project, understand the urban frame and by taking a step back, address those from a different perspective.

- There have been difficulties in achieving feasible institutional cooperation between entities and agencies that have a mutual interest in establishing a 'correspondence' between existing administrative jurisdictions (neighbouring regions, provinces and comuni) and appropriate planning units (or urban 'basins')

- The focus on relaunching and increasing the "competitiveness" of the city, reestablishing tourism as the central engine of the economy along with the emergence of Peer to Peer rental platforms (eg. Airbnb) have put more pressure on the city's historic center fostering the division between a historic center – museum and the active city.

- The ambition to create an urban archipelago of new centers is being particularly challenging due to the city's land ownership patterns. Since the end of the Second World War and till today, a small number of owners control most of the land having a strong influence over both political decisions and the actual enforcement of these. The new centralities are affected by this fact in two ways; they are positioned according to land availability, being subject to approval by the landowners and on the other hand, they are composed by private real estate operations. As a result, the developers control the actual realization of the project, focusing on the most profitable part (eg. Shopping malls and low-quality housing). (Aureli 2010, 52)

4.1.2 Moving beyond policies; incorporating design research to envision the future city

Policies are able to set the rules of a game which transform into urban space only if, amongst other political, economic and legislative factors, the design tools and strategies for implementation are defined. In order for the city to overcome these challenges and be able to create new centralities that will not remain fragments, for its urban space to be perceived as one complex, heterogenous, polycentric yet interactive system and for the transient and permanent communities to interact in space it is important to take a step back. This includes asking both theoretical and practice-oriented questions that could lead to a research-based, design-oriented approach to think about the tools and ways to reshape urban space. With a focus on informing research design, the academic context can become an important framework to address these questions.

4.1.3 Meta-framework; understanding how culture-led movement and heritage valorization affect the urban environment

Rome is a city that is impossible to explore, understand and project for without a meta-framework to do so. To some extend Rome shares challenges commonly found among great cities across the world: congestion, pollution, intractable traffic problems, lack of green spaces, degradation of the urban landscape, and the disintegration of social and human relations (Archibugi 2004, 2). And even though the problems are ubiquitous, their Roman context is, indeed, unusual and probably more challenging to decode. It is important to observe that these typical factors of crisis and degradation, which are common to any great conurbation, are applied, in Rome's case, to an unusual historical and environmental situation (Archibugi 2004, 2).

Starting from the city´s long discussed dualities between the historic city and the metropolis, the preservation of past heritage and future development, the incoming, temporary visitor flows and the communities on the site, the relation between mobility, urban space and cultural artefacts becomes a key question and element to understand the past and be able to project upon alternative futures.
The new polycentric model is going to work only if we have thought about its ties and the question between the historic city and the surroundings is only going to be overcome if we expand and bring these concepts together.

The particular moment amid a pandemic crisis, where questions such as the city's resiliency, the use of urban space and mobility are being challenged, can be seen as a crucial moment to reconceptualize and rethink mobility and heritage through the urban element of the street. Quality of life and the renewal of natural and cultural resources thinking of tools and strategies to design Mobility and heritage management is being a challenge in the era of mass tourism, yet historically the connectivity of the area has been its point of strength and reason of urbanization of adjacent to the network area

4.1.4 Historical frame. Understanding the past, projecting upon the future. The palimpsest as a conceptual framework

The extraordinary composition of Rome poses another complex challenge which is the dynamic historic construct. To read this, the concept of the palimpsest[1] , a framework that has recurrently been used to

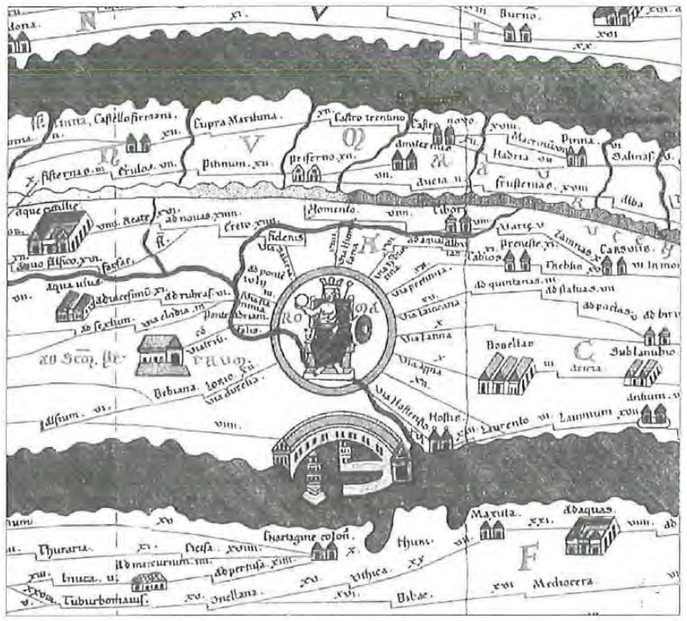
1 We adopt the metaphor of "palimpsest" as a conceptual tool to read the complex historical layering of the city. Being aware of the challenges and the epistemological debate on using metaphors as a framing device (these can be partial and selective, revealing some aspect of the whole while obscuring others), we believe that in the case of Rome, epistemological debate exists in social sciences regarding the use of metaphors as a framing device that may carry advantages and disadvantages. On one hand, metaphorical models can be partial and selective, revealing some aspects of the whole while obscuring others - yet each metaphor is carrying important insights (Rigney, 2001). In this case, the metaphors used are limited in framing and communicating the theoretical concept and reading of the historical layers of the city.

explain the layered construct of architectural monuments and urban morphologies (Azimzadeh and Bjur 2007, 2) is adopted. Two approaches can be identified: the dynamic and the static. An analogy with Sigmund Freud´s recognition of the similarity between the way Rome evolved in stages, and the mind of an individual person, could illustrate the former. He suggested that Rome could be imagined as a psychic entity, with a similarly long past as the human habitation, an entity in which nothing that has once come into existence has passed away. All the earlier phases of development will therefore continue to exist alongside the latest one, forming a complex and dynamic interaction between the various layers. (Freud 1979). This dynamic approach is understood as a concept that does not limit the reading of the city on the appearance of the physical construct, the urban morphology but puts weight on the intangible underlying spatial systems.

Scholars have called Rome "a dynamic place, where the past is jumbled with the present, where people live amid a variegated landscape that is always changing. This is neither an austere nor a ruined city. It is a city of layers" (Agnew 1995 in Gemmiti 2019, 3); "a number of capitals in one" (Cellamare 2017b in Gemmiti, 3). If the past is neither ordered nor understood in a linear way, other methods of organizing and structuring it become important. In space, one of the ways of joining individual memories into meaningful wholes is movement: both the movement of individuals as they go about the city and the shared knowledge and experience of such routes as ritual processions.

Having set the overall frame, on the following chapters we explore the intertwined dialectic between cultural artefacts and mobility in the urban context of Rome through various scales and time periods, considering that the space of the street has been the place best embodies this; a key element since the foundation of Roman urbanization.

4.2 The intertwined relationship between urban form and mobility



Foundation of Rome. The crossroad Via Salaria - Sacred way
Léon Homo, Rome impériale el l'urbanisme dans ranliquité (Paris: Albin Michel,1951), Part I, Chapter 2.1.2.

Whatever the genealogy of Rome's greatness, it is not premised on geography (Taylor, Rinne, and Kostof 2017). Rome stood near the middle of the bustling Mediterranean basin at an important intersection of land routes and the Tiber, the largest and most navigable river in the region (Taylor, Rinne, and Kostof 2017).The city is uniquely precise because the basis of its foundation was not a hill, but a crossroad, inhabited by an ethnically mixed group of citizens; Plutarch´s version considers Rome a sanctuary founded by Romulus, open to all fugitives of the region (Plutarch12,1).

The street is not only the basic figure of the first foundation of the city, but also a link to the territory and to the 'other', with the tribes residing on the arch of volcanoes that surround the river Tiber (Aureli 2010). These tribes are initially strong enemies that oppose Rome's quite developed hill centers with which the city is both in commercial relationship, and occasionally in conflict. The roads that connected Rome to these other tribal seats therefore became not mere linear connections but spaces of dialogue and conflict (Giudici 2014). The infrastructural connections which in the case of other cities started outside the walls, in the case of Rome were at the very heart of its foundation. "From this first condition, the Romans were to distil the cardo decumanus model which links city and territory through the continuity of the road" (Aureli 2010, 15). The paving of the forum in limestone can be seen as the first creation of a space for walking, in which walking was not disrupted by pot holes, puddles, mud and other filth. The extension of surfaces of this type created a network of paved streets that extended across the city and into the countryside. This process was stimulated not by the simple extension of streets into the countryside but by a change in Rome's approach to space encapsulated by the construction of the Via Appia from Rome to Capua in 312 BCE as a public space of over 100 miles (Laurence in Griffiths and Lünen 2016)

What is the relationship with those movements and today´s urbanization?

Interventions in Modern Rome on the street network affecting the reading of cultural spaces

The strong relationship between street networks and cultural spaces can be perceived through examples of changes in the city´s movement patterns, informed by policy & design interventions happening over the last decades. The Forum Romanum and the neighboring Imperial Fora are two such cases that demonstrate this mutual dependency from two very different angles. Whilst playing today a similar role as places of memory their relationship to movement and the street space differ significantly. The Forum Romanum, functioning as a node on several major ancient, medieval and Renaissance routes was preserved for centuries till it became an enclosed space in the twentieth century (Russell 2014, 480). In the case of the Imperial Fora, on the other hand, the space was isolated from movement until Mussolini as part of its revitalization campaign used movement on the processional route of the Via dell'Impero to revitalize with strong gestures the area as central to Roman cultural memory and identity.
These areas had experienced continuity in movement patterns from antiquity to the twentieth century till urban interventions essentially reversed their relationship to the city and the way cultural spaces are being valued and perceived.

Another more recent example which will be elaborated further in the following chapters, is the pedestrianization of the Trevi – Pantheon route as part of the interventions taking place in the historic city to enhance the cultural paths of it.

The pattern of long-term continuity and the recent change in each area's relationship to the wider city are direct consequences of the way cultural heritage has been consumed and cultural memory constructed through movement (Russell 2014), Today, this understanding can illuminate the enduring influence of historic street networks on the urban environment providing us with insights regarding future interventions.

5.0 CASE STUDIES

5.1 Overview on the case study selection

In order to disentangle the complexities of the Roman palimpsest and understand the interdependencies between cultural movement and urban space, we start from three main street networks as key elements to explore the posed question.
We adopt Mario Sanfilippo´s categorization in "Roma: La costruzione di una capitale" which suggests following division of the city in three phases: that of Ancient Rome, Christian Rome and from 1870 on, Third Rome or Rome as the capital of the Kingdom of Italy. Within this broad chronological division, we propose the reading of three street networks where each of them is particularly linked with one of the aforementioned historic periods.
The first case study starts from the beginning of the development of street networks during Ancient Rome. The Appian Way, is selected as a case study for following two reasons. First, the fact that an extensive material from a variety of disciplines exist to test the projects hypothesis and secondly, being amongst the oldest and architecturally most charged Roman consular roads, it provides a fruitful example to start exploring the relation between artefacts and infrastructure, symbols and circulation space. The large-scale infrastructural character of this street, allows us to explore it as a backbone of territorial organization, a container of larger scale movement and explore on one hand, how this past mobility is crystallized today and on the other, how mobility is performing today in relation to what remains from its historic character.
A street gaining importance during the Renaissance period - belonging to the broader chronological division of the Christian Rome, Via Papalis, is our second case study. Here, the street as a contested space is the angle through which we approach this case study.
In the contemporary discourse, our third case study focuses on the Trevi - Pantheon route. In this case the streets are examined as a backdrop of icons and containers of mass movement of tourism flows.

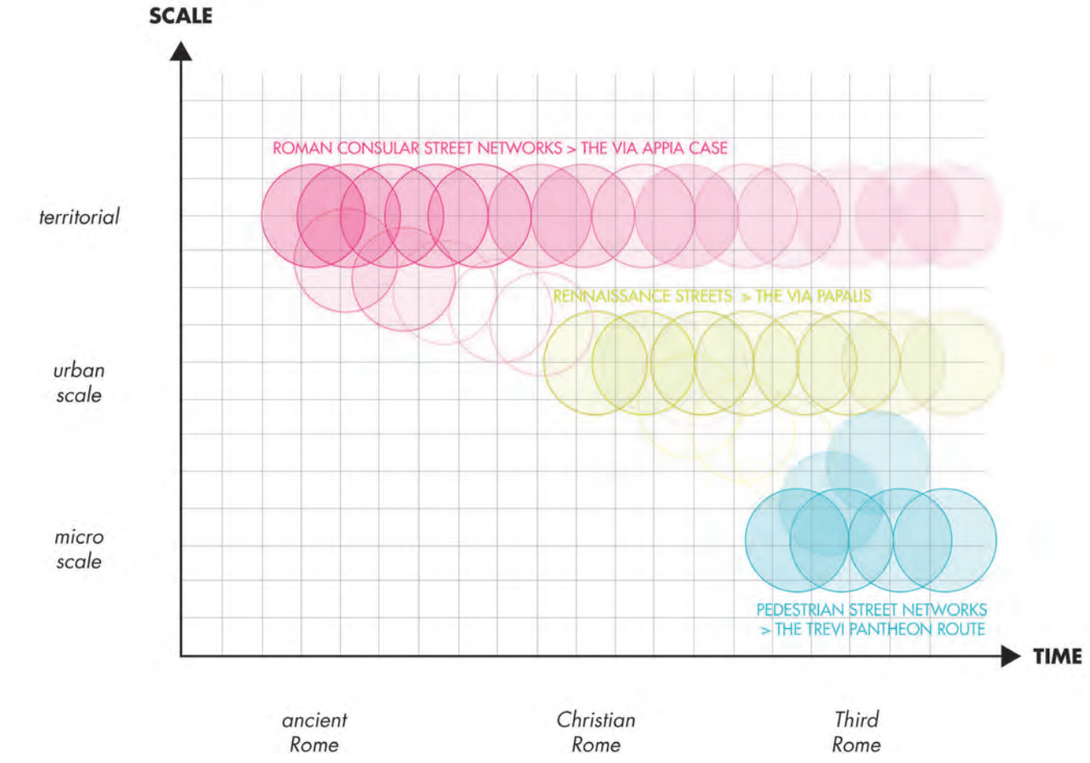


Diagram explaining the case study selection in order of time and scale

Given the different scale and time period, the specific methodology for each case study follows the main methodological framework, yet, is not identical from case to case. In the Trevi-Pantheon case, the quantitative and methodological tools will be more prominent, whereas in the case of the Appian Way, qualitative tools and theoretical references are the basis of this research.

5.2 The question of scale

The question of scale in urban analysis can be amongst the most challenging ones both when conducting a spatial analysis as well as its theoretical definition. As Brenner and Schmid analyzed, there is no singular morphology of the urban; there are, rather, many processes of urban transformation that crystallize across the world at various spatial scales, with wide-ranging, often unpredictable consequences for inherited sociospatial arrangements (Brenner and Schmid 2015). We adopt a multi-scalar analysis; our first case study, Via Appia, focuses on a territorial scale, the Via Papalis on an urban scale and the Trevi – Pantheon route we could consider it at a neighborhood scale.

5.2 The question of time

While the chronological spectrum of this project is broad and starts from the foundation of the first streets in Rome, the aim is to understand these events through the suggested framework with the scope to project upon the future. Thus, adding to the existing knowledge in the field of architectural history and urbanism falls out of the scope of this research.

SUB-QUESTIONS PER CASE STUDY

How is movement happening in the Appian Way as an intangible feature and the Appian Way as a spatial (tangible) feature being perceived today as a cultural artifact?

How did the street as a contested space, the public private division and its representation of power playout in the case of Via Papalis?

What is the relationship between current mass movement flows, cultural spaces and pedestrian street networks?

6.0 Case study 01
ROMAN CONSULAR ROADS. The Appian Way

The consular roads might have started as a political act and means to control the Empire; the meaning and role though, certainly extended beyond that. Their multiple roles can be defined as backbones of an urbanization process happening along the spine of this streets, primary routes to travel across the natural landscape and containers of flows and cultural exchange. Their role was not limited in building the Roman world as a physical environment but constructed a fully-fledged milieu that allowed diversity and at the same time controlled it (Aureli 2010, 18).

6.1 Mobile cultures in Roman italy

Mobility and the structure of transport played a key role to maintaining the consistency between cities and regions in the Roman Empire and the developments in technology played an important role in it.
The developed road system and the increased efficiency of the actual transport animals, alongside a mentalité of spacetime that emphasized the transport of persons and goods over a distance, are features of a culture that has an emphasis on mobility (Laurence 1999, 136). "A Roman soldier first, as the power of his city forced its way south and laid its weight upon the other tribes of the peninsula, who sometimes managed to push back. Then a craftsman, tradesman, or small farmer bringing his goods to one of the towns—Minturnae or Aeclanum or Venusia—that were the links in the civil life of a great empire". (Kaster 2012)
Understanding mobility involves understanding the means of transport as well, which differed according to social status. A simple cart (plaustrum) was rarely being used by the elite, unless there was a crisis in the state (Laurence 1999, 138). The vehicle most commonly used by both the elite was a raeda — a carriage that could also carry personal possessions or bring goods from Rome to a suburban villa (Laurence 1999).

Raeda in mosaic in the baths of Ostia
Source: Pisani Sartorio, G. (1988) Mezzi di trasporto e traffica, Edizioni i Quasar

These vehicles , able to travel as much as 100 miles per day, were accompanied along the road by mutationes to change horses every 12 to 18 km and mansiones to rest overnight every 15 to 30 km; standard features that gave rise to a more or less regular rhythm of urban centers growing along the road using it as their main urban backbone.(MacDonald 1982)
The journey to Rome was one which gradually revealed elements of Roman culture to the visitor or ambassador from southern Italy. (Laurence 1999, 19)

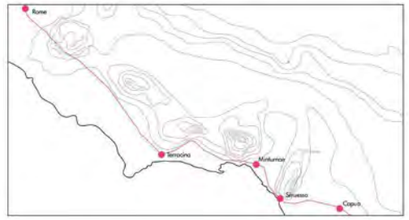
6.2 Via Appia. A multi-scalar spatial system

"We took this lazily in two days, though keener travelers than us take only one: the Appian's easier taken slow." Horace, Satires, 1.5.1

The Appian Way can be considered as a system consisting of three parts; the urban, the suburban and the territorial. While identifying its different parts, the scope of this case study is to focus on the Appian Way as a whole, asking the question of whether and how the Appian Way as an element is a cultural artefact itself and if a common narrative that has crystallized past events and mobility exists today.

The urban part

The suburban part



The territorial part (expands to Brindisi)

The Appian Way was at the same time an urban street and an extraurban road linking the different cities. We can say that the Appian Way represented a street operating in three scales, starting from the center of Rome; the urban, the suburban and the territorial. We could limit its urban part (considering the expansion of the contemporary city) at the point where the Appia Antica meets the New Appian way, built in the 18th century by the Popes which runs parallel to the old road. The suburban part of it, runs at the feet of the volcano edge which ends with the lake Albano; from there, we consider the beginning of the territorial part of the Way, extending for 563 km all the way to Brindisi.

Across the first part of the Appian Way, the Appia Antica, can be considered both, a container of fragments that, without an apparent sequence or logic, are connected amongst them through an inexplicable coherence (Segarra Lagunes 2004, 36) and an artefact per se. Resembling the other consular roads, the Appian Way in the first kilometres starting from the core of the city, was a necropolis of sorts, a memorial avenue lined with tombs and cenotaphs and estates of prominent families. In "Learning from Las Vegas", Rome is being compared to Las Vegas. Was the first part of the Appian Way, expressed through the famous drawing of Piranesi, a scenic backdrop composed of a set of artifacts on a similar note that the Las Vegas strip is depicted?

G. B. Piranesi,Intersection of the Appian Way and the Via Ardeatina.

Tlie Las Vegas Strip in Venturi, Scott Brown,Izenour's Learning From Las Vegas.

While on the urban – suburban part of the Appian Way, the Appian Way is characterized by a succession of architectural objects, on a territorial scale, the Appian Way worked as an organized system, where one single main architectural artifact - the paved, three-dimensional volume of the street - linked together and defined territories and landscapes. And although military in its origin, the Appian Way became a large-scale spatial device to control and order the territory, the landscape and that of the actual experience of travelling on the road (Giudici 2014).

Via Appia Nuova in the Roman Campagna, 1930,
Antonio Caderna Archives

6.3 The street as a backbone of urban development. Mobility as an engine of activities and the emergence of new urban settlements across the Appian Way

The building of the road was associated with the establishment of settlements on the road itself, performing as a backbone for urban development. The Appian Way, performing as a "highway", was the core street along which urbanization of these settlements would occur. While in a suburban condition this happened through monumental tombs marking an extreme symbolism, within towns standardized elements such as stone walkways and porticoes provided the necessary blank facade that Roman ethics and religion asked in order to achieve a clear urban scene (Livi, n.d).
Examples of settlements developed along the Appian Way include a town established by Appius, known as Forum Appii (Laurence 1999, 16), Minturnae and Benevento. In these settlements, where the urban core was bisected by the major arterial roads used for long distance travel the display of the city to travelers was at its most explicit (Laurence 1999, 151)
Minturnae was a roman colonia maritima, founded in 296/295. No village existed though on the site of Minturnae before the extension of the Appian Way; that strengthens the idea that the settlement was founded to fit in the rhythm of regular stations along the Appian Way (Giudici 2014, 79). It held a strategic position, where the via Appia crossed from Latium to Campania, and a port on the navigable river Garigliano or Liri (the ancient Liris), two km from the coast. Rome's armies and other travelers regularly transited Minturnae, on the main route to southern Italy and Greece. (Stannard, Ferrante, and Sinner 2019).

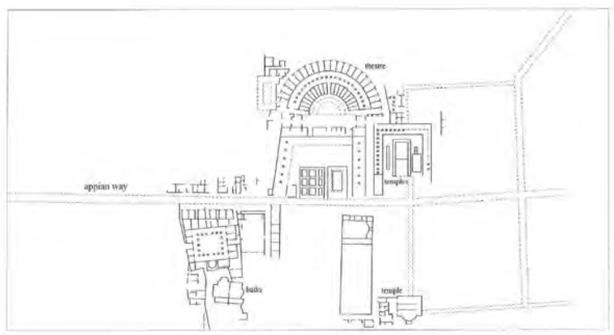
Via Appia through the town of Minturnae
source: Ray Laurence, The roads of Roman Italy

6.4 Methodological approach on the case study

As mentioned on the case study chapter, each of the case studies, due to the different characteristics of scale and time, adopt different methodological tools yet part of the broader research design.
The methodological framework will develop following analysis:

- A theoretical exploration of the Appian Way in its urban, suburban and territorial character, understanding how mobility and urbanization during the Roman Empire are crystallized (see 7.2, 7.3)
- A configurational analysis of the street network. This includes performing a global integration analysis of the Roman consular road network as well as understanding today´s urbanization processes in relation to the past networks (current integration). (see 7.5)
- A qualitative mapping process of the elements that u5veil a common narrative of the space of the street (see 7.6)

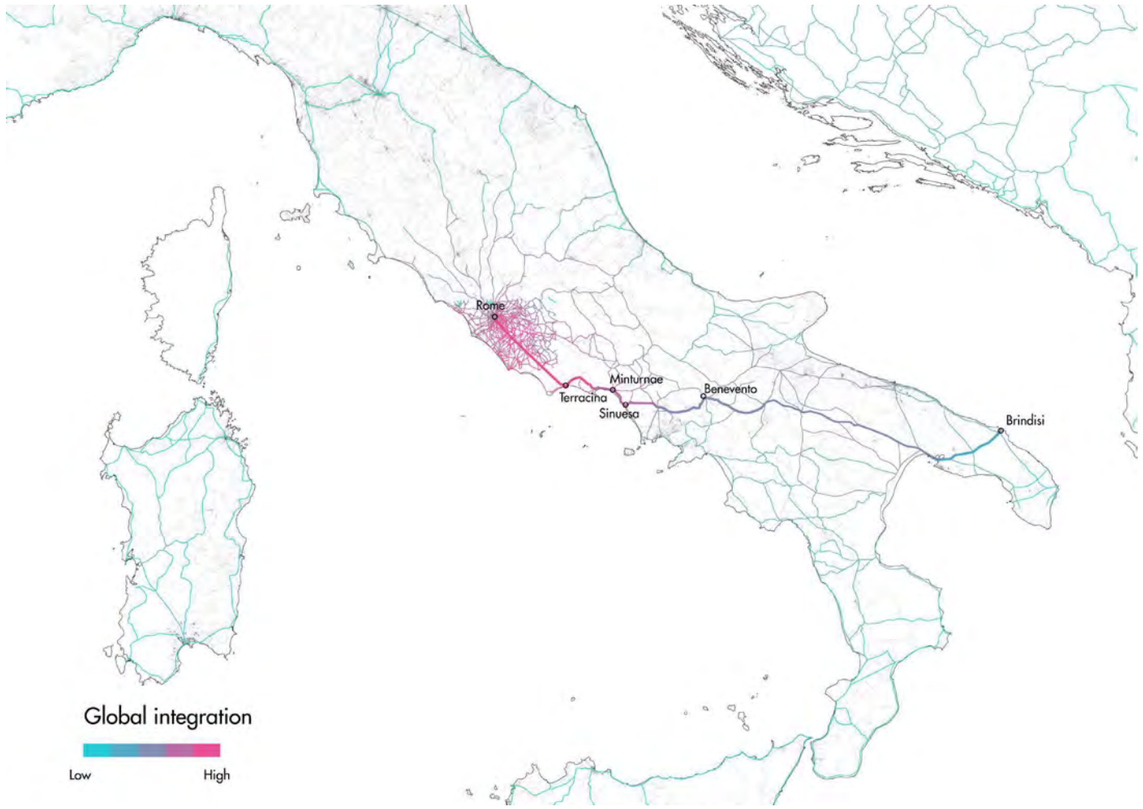
Through this case study, we ask the question whether the creation and reproduction of cultural memory through movement can illuminate the enduring influence of ancient street networks on the modern cityscape. Does a possibility for a common project of the Appian Way exist?



Plan of Via Appia through the town of Minturnae
source: Yegül, F., & Favro, D. (2019).
Architecture and Planning in Italy and the Western Provinces: From the Republic to the Empire

6.4.1 Methodological examples on configurational analysis

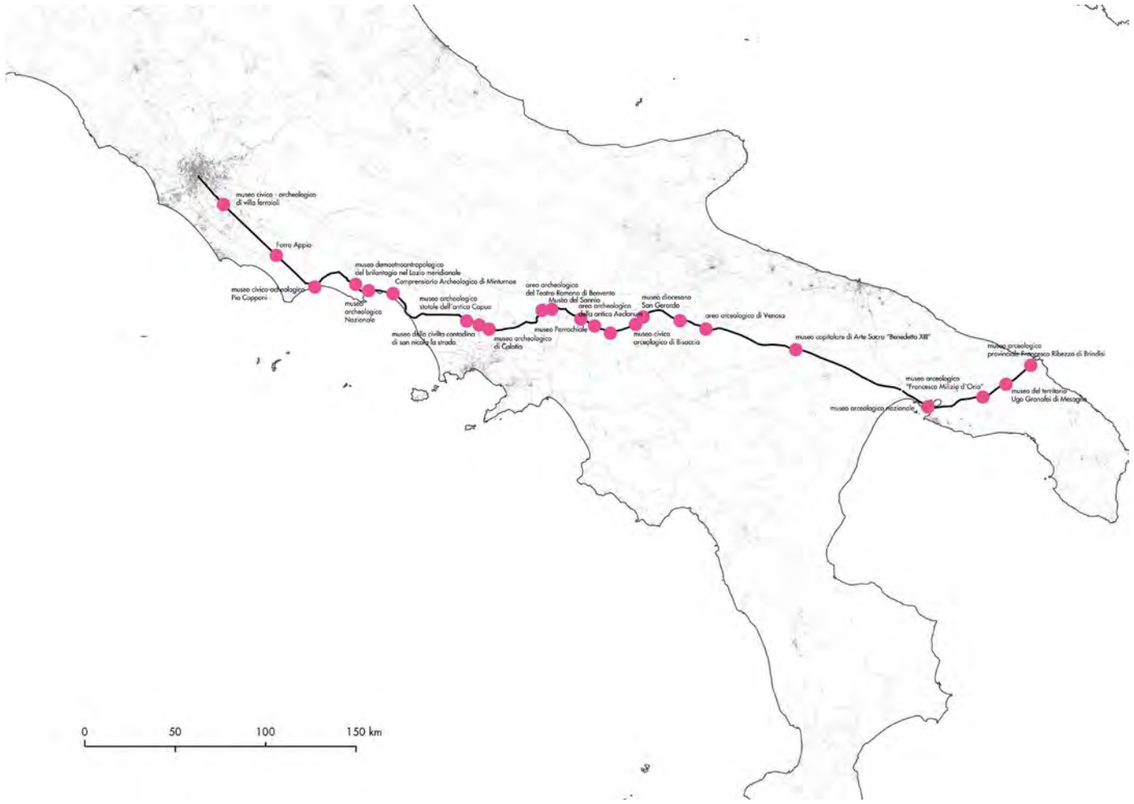
Applications of space syntax global integration analysis to analyze the integration of Roman road system



Roman roads global integration map
source: author, initial dataset from: The Digital Atlas of Roman and Medieval Civilizations, Harvard University

6.4.2 Methodological examples on qualitative mapping

Mueums along the Appian Way; further analysis on the type of cultural spaces will analyze whether these refer to a shared narrative of the Appian Way



Museum spaces along the Appian Way
source: author

6.5 Analysis on the policies and design interventions to highlight the Appian Way as a cultural element

6.6 Conclusions. The possibility for a common project?

7.0 Case Study 02. VIA PAPALIS

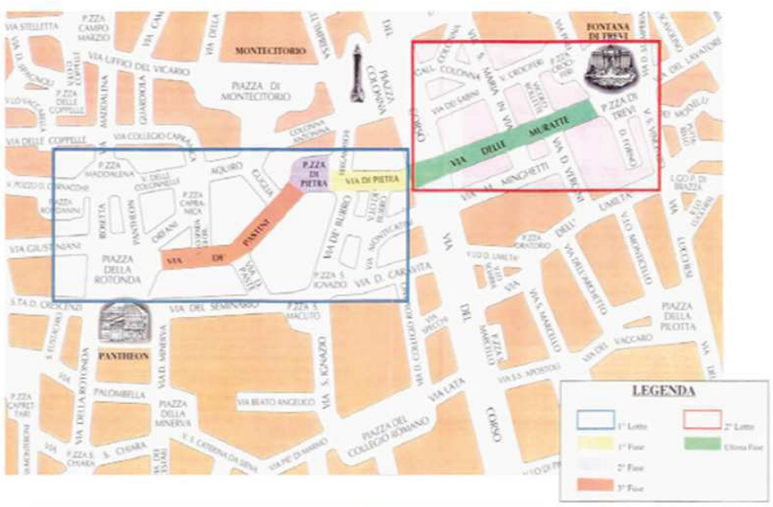
The present case study will be developed on a later stage of this research.

8.0 Case Study 03. THE PANTHEON TREVI ROUTE. Street mobility in an era of increased mobility

The third case study focuses on one of the most visited tourists' itineraries in the city of Rome, and probably amongst European cities, the Trevi-Pantheon route and investigates the relationship between movement and memory, and in particular how the integration of spaces or cultural sites into the city's wider movement patterns affects their role as a place of memory.

8.1 Policies & urban interventions since 1990

The city of Rome (Town Council Resolution no. 9442) on December 1990, launched a competition for the re-qualification of the historic center (Porfyriou 2010, 335). The competition call was focusing on the development of two major road axes in the commercial part of the historic center; the Trevi – Pantheon itinerary and the Via Condotti – Via Fontanella Borghese itinerary. Article 1 of the competition announcement specified as main competition goal to achieve "The best possible solution for the use and image of public spaces in the historic center". The competition ended with the announcements of the winners by the Jugding Comission on May1994 and approved by the Town Council resolution on August of the same year.



Plan of the Trevi-Pantheon itinerary indicationg the phases of realization of the protected pedestrian itinerary for disabled persons
Source: Porfyriou, 2010

Connecting Trevi to Pantheon with a pedestrian street (initially specially designed for the visually impaired) implied creating a privileged itinerary especially attractive to tourist groups and flows, who immediately adopted it as the only real direct connection between these two monumental urban spots of the city. (Porfyriou 2010, 341).

8.2 Methodology applied in the case study.

In this case study we will focus on the contemporary realm and the mobility flows happening between pedestrians along the three different itineraries to reach from Trevi to Pantheon. Since the study is placed on the contemporary scene, we are able to test and put in place tools applied in a variety of recent urban study models. Compare three routes. Comparing the main route with the adjacent ones.

The methodological tools thus inculde a mixed methodology consisting of following steps:

- Macro-spatial configurational analysis tools (eg. Space syntax)

- Static snapshots

- Micro-spatial analysis tools (Van Ness). street openings

- Morphological analysis of the street networks

- Socio-economic data analysis

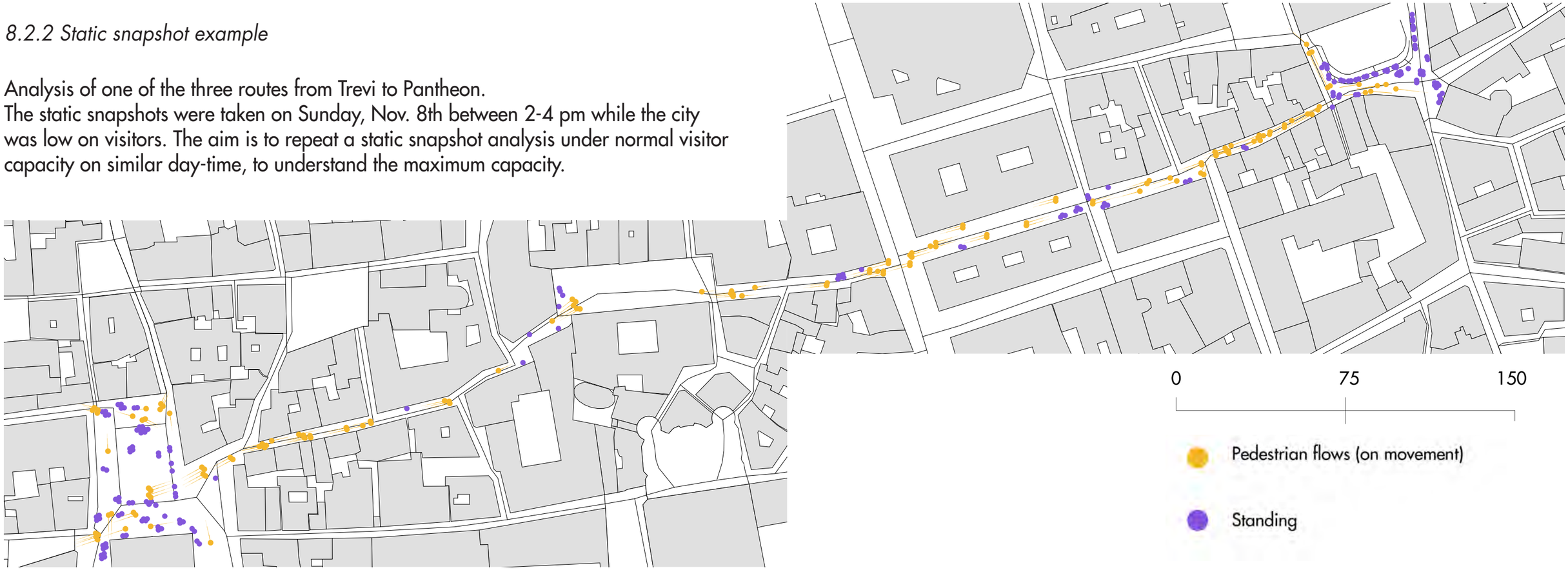
In this study we aim to understand which factors have the largest impact on affecting visitors routes.

8.2.1 Configurational analysis example

Topological Segment Map Analysis
Source: author

8.2.2 Static snapshot example

Analysis of one of the three routes from Trevi to Pantheon.
The static snapshots were taken on Sunday, Nov. 8th between 2-4 pm while the city was low on visitors. The aim is to repeat a static snapshot analysis under normal visitor capacity on similar day-time, to understand the maximum capacity.



9.0 BIBLIOGRAPHY & REFERENCES

Amoroso, Nadia. 2010. The Exposed City: Mapping the Urban Invisibles. 1. ed. London: Routledge.

Appleyard, Donald, Kevin Lynch, and John Myer. 1964. "The View from The Road." Cambridge, The MIT Press.

Archibugi, Franco. 2004. Rome: A New Planning Strategy. Routledge.

Aureli, Pier Vittorio. 2010. Rome: The Centre(s) Elsewhere a Berlage Institute Project. Torino: Skira.

Batty, Michael. 2001. "Agent-Based Pedestrian Modeling." Environment and Planning B: Planning and Design 28 (3): 321–26. https://doi.org/10.1068/b2803ed.
———. 2017. The New Science of Cities. Reprint edition. Cambridge, Massachusetts London, England: The MIT Press.

Bjur, Hans, and Santillo Barbro Frizell. 2009. "Via Tiburtina: Space, Movement and Artefacts in the Urban Landscape." Landscape Research 37 (1). https://doi.org/10.1080/01426397.2012.658673.

Brenner, Neil, and Christian Schmid. 2015. "Towards a New Epistemology of the Urban?" City 19 (2–3): 151–82. https://doi.org/10.1080/13604813.2015.1014712.

Copolla, Alessandro, and Gabriella Punziano. 2018. Roma In Trasizione. Governo, Strategie, Metabolismi e Quadri Di Una Metropoli. Planum publisher.

Corner, James. 2011. "The Agency of Mapping: Speculation, Critique and Invention." In The Map Reader, edited by Martin Dodge, Rob Kitchin, and Chris Perkins, 89–101. Chichester, UK: John Wiley & Sons, Ltd. https://doi.org/10.1002/9780470979587.ch12.

Cullen, Gordon. 1995. The Concise Townscape. Architectural Press.

Delpirou, Aurelien. 2012. "Métropolitiques," 4.

Ganiatsas, Vasilis. 2010. "Heritage as Ethical Paradigms of Identity and Change: In Need of New Conceptual Tools, Practices or Attitude?" In .

Gehl, Jan. 2001. Life between Buildings: Using Public Space. 4th ed.. Copenhagen: Arkitektens Forlag.

Gemmiti. 2019. "Neoliberal Rome - The Role of Tourism." Social Sciences 8 (6): 196. https://doi.org/10.3390/socsci8060196.

Giudici, Maria. 2014. "The Street as a Project. The Space of the City and the Construction Ofthe Modern Subject."

Graham, Stephen. n.d. "© STEPHEN GRAHAM and SIMON MARVIN," 59.

Griffiths, Sam. 2012. "THE USE OF SPACE SYNTAX IN HISTORICAL RESEARCH: Current Practice and Future Possibilities." Eighth International Space Syntax Symposium.

Griffiths, Sam, and Alexander von Lünen, eds. 2016. Spatial Cultures: Towards a New Social Morphology of Cities Past and Present. London; New York: Routledge, Taylor & Francis Group.

Hillier, Bill, and Julienne Hanson. 1986. "The Social Logic of Space." Cambridge University Press, 11.
Hillier, Bill, and Laura Vaughan. 2007. "The City as One Thing." Prog Plan 67(3):205–230.

Insolera, Italo. 1962. Roma moderna: un secolo di storia urbanistica. Piccola biblioteca Einaudi 0025. Torino: Einaudi.

Jacobs, Allan B. 1995. Great Streets. Cambridge, Mass. London: The MIT Press.

Jacobs, Jane. 1961. The Death and Life of Great American Cities. New York: Random House.

Kaster, Robert. 2012. The Appian Way: Ghost Road, Queen of Roads (Culture Trails: Adventures in Travel). The University of Chicago Press.

Laurence, Ray. 1999. The Roads of Roman Italy: Mobility and Cultural Change. London ; New York: Routledge.

MacDonald, William L. 1982. The Architecture of the Roman Empire. Yale Publications in the History of Art 0017. New Haven London: Yale University Press.

Marc, Angelil, and Anna Klingmann. 1999. Hybrid Morphologies. Infrastructure, Architecture, Landscape. Daidalos.

Marcelloni, Maurizio. 2003. Pensare la città contemporanea: il nuovo piano regolatore di Roma. Grandi opere. Roma: Laterza.

Montanari, A. 1976. Roma Sbagliata, Le Conseguenze Sul Centro Storico. Rome, Italy: Bulzoni.

Nes, Akkelies van, and Manuel J J López. 2010. "Macro and Micro Scale Spatial Variables and the Distribution of Residential Burglaries and Theft from Cars" 1 (2): 20.

Obad Š itaroc, Mladen, Bojana Bojani Obad Š itaroci, and Ana Mr a. 2019. Cultural Urban Heritage_ Development, Learning and Landscape Strategies-Springer International Publishing (2019.Pdf. Springer International Publishing.

Palazzo, Anna Laura, and L. Giecillo. 2009. Territori Del'urbano. Quotlibet Studio.

Porfyriou, Heleni. 2010. "Urban Policies and Monitoring Tourist Impact: The Case Study of Trevi-Pantheon Itinerary in Rome," 22.

Portugali, Juval. 2011. Complexity, Cognition and the City. Understanding Complex Systems. Berlin, Heidelberg: Springer Berlin Heidelberg. https://doi.org/10.1007/978-3-642-19451-1.

Quilici, Vieri. 2007. Roma Capitale Senza Centro. Officina Edizioni.

Rittel, Horst W. J., and Melvin M. Webber. 1973. "Dilemmas in a General Theory of Planning." Policy Sciences 4 (2): 155–69.

Rowe, C, and F. Koetter. 1983. Collage City. Cambridge, Mass: MIT Press.

Russell, Amy. 2014. "Memory and Movement in the Roman Fora from Antiquity to Metro C."

Journal of the Society of Architectural Historians 73 (4): 478–506. https://doi.org/10.1525/

jsah.2014.73.4.478.

Segarra Lagunes, María Margarita. 2004. Il Tevere e Roma: storia di una simbiosi. Roma: Gangemi.

Stannard, Ferrante, and Sinner. 2019. “Trade between Minturnae and Hispania in the Late Republic.”

Taylor, Rabun M., Katherine Rinne, and Spiro Kostof. 2017. Rome: An Urban History from Antiquity to the Present. New York, NY: Cambridge University Press.